

Type I Data Package

Prepared for:

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

**CHECKED FOR COMPLETENESS
OF PARAMETERS ORDERED BY:**



Project: Olin Wilmington, MA/6107120016
Sediment Sample
Collected on 11/06/12

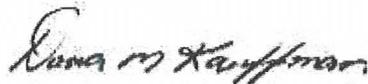
SDG# OLN82

GROUP	SAMPLE NUMBERS
1348041	6854332

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:



Date: 11/29/2012

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Nicole Maljovec at Ext. 1537.

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**Sample Reference List for SDG Number OLN82
with a Data Package Type of I
12670 - Olin Corporation
Project: Olin Wilmington, MA/6107120016**

Lab Sample Number	Lab Sample Code	<u>Client Sample Description</u>
6854332	SED-7	OC-SD-EDSD/SW7-XXX Grab Sediment



Lancaster Laboratories

Environmental Sample Administration 1348041 Receipt Documentation Log

Client/Project: Olin Corp

Shipping Container Sealed: YES NO

Date of Receipt: 11/9/12

Custody Seal Present *: YES NO

Time of Receipt: 0920

* Custody seal was intact unless otherwise noted in the discrepancy section

Source Code: 50

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	2737	2.9	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Rec'd Sample OC-GW-4000-XXX labeled as OC-GW-4040-XXX
identified by time collected - Correct per CM. NIM 11/12/12

Rec'd Sample OC-GW-4045-XXX labeled as OC-GW-4005-XXX
identified by time collected - Correct per CM. NIM 11/12/12

Unpacker Signature/Emp#: Pat Gyle 3472 Date/Time: 11/9/12 1228

Issued by Dept. 6042 Management
2174.06

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

10346 Hydrazines in Soil

The soil is extracted with a buffer solution of known pH. An aliquot of the supernatant is derivatized and directly analyzed by HPLC/MS/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8315A modified, December 1996.

00111 Moisture

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

November 21, 2012

Project: Olin Wilmington, MA/6107120016

Submittal Date: 11/09/2012

Group Number: 1348041

SDG: OLN82

PO Number: REWI0012

Release Number: ERRE9813

State of Sample Origin: MA

Client Sample Description
OC-SD-EDSD/SW7-XXX Grab Sediment

Lancaster Labs (LLI) #
6854332

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

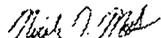
ELECTRONIC COPY TO AMEC
ELECTRONIC COPY TO AMEC
ELECTRONIC COPY TO Olin Chemicals
ELECTRONIC COPY TO Data Package Group

Attn: Kelly Chatterton

Attn: Chris Ricardi

Attn: James Cashwell

Respectfully Submitted,



Nicole L. Maljovec
Principal Specialist Group Leader

(717) 556-7259

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng.	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
J	estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions, and Lancaster hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Lancaster
Laboratories

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: OC-SD-EDSD/SW7-XXX Grab Sediment
Wilmington MA Superfund Site

LLI Sample # SW 6854332
LLI Group # 1348041
Account # 12670

Project Name: Olin Wilmington, MA/6107120016

Collected: 11/06/2012 09:55 by CTM

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

Submitted: 11/09/2012 09:20
Reported: 11/21/2012 15:57

SED-7 SDG#: OLN82-01*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
	Misc. Organics	SW-846 8315A modified	ng/g	ng/g	ng/g	
10346	1,1-Dimethylhydrazine	57-14-7	N.D.	6.4	2.6	1
10346	Hydrazine	302-01-2	N.D.	2.6	0.64	1
10346	Methylhydrazine	60-34-4	N.D.	6.4	2.6	1
	Wet Chemistry	SM20 2540 G	%	%	%	
00111	Moisture	n.a.	21.7	0.50	0.50	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10346	Hydrazines in Soil	SW-846 8315A modified	1	12317004	11/19/2012 23:22	Meng Yu	1
00111	Moisture	SM20 2540 G	1	12318820003B	11/13/2012 19:54	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Hydrazines by LC/MS/MS Data

Case Narrative/Conformance Summary

Case Narrative/Conformance Summary

CLIENT: Olin Corporation
SDG: OLN82

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
6854332	OC-SD-EDSD/SW7-XXX		X	1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected

Case Narrative/Conformance Summary

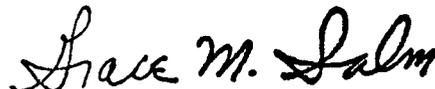
CLIENT: Olin Corporation
SDG: OLN82

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E = out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Narrative Reviewed and Approved 11-28-12 by
(Date)


Grace M. Salm
Specialist

QC Summary



Lancaster
Laboratories

Quality Control Reference List
Specialty Services Group

CLIENT: Olin Corporation
SDG: OLN82

Fraction: Hydrazines by LC/MS/MS

Analysis	Batch Number	Sample Number	Analysis Date
Hydrazines in Soil	12317004	BLK	11/19/2012 20:48:00
		LCS	11/19/2012 21:39:00
		LCSD	11/19/2012 21:56:00
		6854332	11/19/2012 23:22:00

Fraction: Hydrazines by LC/MS/MS

12317004 / BLK Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Hydrazine	11/19/12	N.D.	ng/g	0.50	2.0
Methylhydrazine	11/19/12	N.D.	ng/g	2.0	5.0
1,1-Dimethylhydrazine	11/19/12	N.D.	ng/g	2.0	5.0

**SDG: OLN82
Matrix: SOLID**

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

LCS LCSD	Batch: 12317004 (Sample number(s): 6854332)							
Analyte	Spike Added ng/g	LCS Conc ng/g	LCSD Conc ng/g	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Hydrazine	120	105.21	114.53	88	95	61-122	8	30
Methylhydrazine	600	613.72	642.98	102	107	57-120	5	30
1,1-Dimethylhydrazine	600	580.61	662.26	97	110	69-128	13	30

Sample Data

Fraction: Hydrazines by LC/MS/MS

10346: Hydrazines in Soil Analyte Name	Default MDL	Default LOQ	Units
Hydrazine	0.50	2.0	ng/g
Methylhydrazine	2.0	5.0	ng/g
1,1-Dimethylhydrazine	2.0	5.0	ng/g



LCMSMS ANALYSIS REPORT

Component Name: Monomethylhydrazine

Summary of Quan Results

Sample ID	Data File Name	Area	ISTD Area	Area Ratio	Specified Amount	Calculated Amount	% Diff	Excluded
Meoh	B12317004-01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SYS(MDL)	B12317004-02	1296.96	N/A	1296.962	N/A	6.127228	N/A	N/A
CAL1	B12317004-03	1484.35	N/A	1484.348	5.000000	6.471612	29.43	N/A
CAL2	B12317004-04	3339.42	N/A	3339.416	10.000000	9.880919	-1.19	N/A
CAL3	B12317004-05	10862.63	N/A	10862.632	25.000000	23.707345	-5.17	N/A
CAL4	B12317004-06	21039.15	N/A	21039.153	50.000000	42.410107	-15.18	N/A
CAL5	B12317004-07	122036.32	N/A	122036.316	250.000000	228.026172	-8.79	N/A
CAL6	B12317004-08	259390.12	N/A	259390.118	500.000000	480.459723	-3.91	N/A
CAL7	B12317004-09	566105.47	N/A	566105.467	1000.000000	1044.151762	4.42	N/A
CAL8	B12317004-10	680773.36	N/A	680773.356	1250.000000	1254.892360	0.39	N/A
Meoh	B12317004-11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BLK	B12317004-12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCV1	B12317004-13	13015.72	N/A	13015.718	25.000000	27.664361	10.66	N/A
ICV	B12317004-14	329729.31	N/A	329729.306	600.000000	609.731508	1.62	N/A
LCS12317004	B12317004-15	331900.22	N/A	331900.221	600.000000	613.721290	2.29	N/A
LCSD 12317004	B12317004-16	347822.02	N/A	347822.018	600.000000	642.982917	7.16	N/A
MS (6854547)	B12317004-17	4364.98	N/A	4364.975	N/A	11.765727	N/A	N/A
MSD (6854548)	B12317004-18	8456.96	N/A	8456.960	N/A	19.286118	N/A	N/A
CCV2	B12317004-19	23975.34	N/A	23975.336	50.000000	47.806324	-4.39	N/A
6854546(BKG)	B12317004-20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854332	B12317004-21	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854540	B12317004-22	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854541	B12317004-23	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854542	B12317004-24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854543	B12317004-25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854544	B12317004-26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854545	B12317004-27	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCV3	B12317004-28	122828.48	N/A	122828.476	250.000000	229.482031	-8.21	N/A

Meng Yu
Principal Chemist

NOV 20 2012



LCMSMS ANALYSIS REPORT

Component Name: 1,1-Dimethylhydrazine

Summary of Quan Results

Sample ID	Data File Name	Area	ISTD Area	Area Ratio	Specified Amount	Calculated Amount	% Diff	Excluded
Meoh	B12317004-01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SYS(MDL)	B12317004-02	1323.05	N/A	1323.046	N/A	4.565246	N/A	N/A
CAL1	B12317004-03	2755.09	N/A	2755.085	5.000000	6.162537	23.25	N/A
CAL2	B12317004-04	5892.43	N/A	5892.427	10.000000	9.661918	-3.38	N/A
CAL3	B12317004-05	20676.40	N/A	20676.400	25.000000	26.151912	4.61	N/A
CAL4	B12317004-06	36083.08	N/A	36083.076	50.000000	43.336467	-13.33	N/A
CAL5	B12317004-07	196004.43	N/A	196004.433	250.000000	221.712214	-11.32	N/A
CAL6	B12317004-08	423885.00	N/A	423884.995	500.000000	475.889430	-4.82	N/A
CAL7	B12317004-09	912594.08	N/A	912594.078	1000.000000	1020.993906	2.10	N/A
CAL8	B12317004-10	1150265.32	N/A	1150265.322	1250.000000	1286.091616	2.89	N/A
Meoh	B12317004-11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BLK	B12317004-12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCV1	B12317004-13	25321.96	N/A	25321.955	25.000000	31.333549	25.33	N/A
ICV	B12317004-14	512619.66	N/A	512619.660	600.000000	574.863779	-4.19	N/A
LCS 12317004	B12317004-15	517772.80	N/A	517772.805	600.000000	580.611579	-3.23	N/A
LCSD 12317004	B12317004-16	590976.20	N/A	590976.205	600.000000	662.262406	10.38	N/A
MS (6854547)	B12317004-17	4733.04	N/A	4733.038	N/A	8.368740	N/A	N/A
MSD (6854548)	B12317004-18	9896.95	N/A	9896.951	N/A	14.128550	N/A	N/A
CCV2	B12317004-19	41938.73	N/A	41938.733	50.000000	49.867847	-0.26	N/A
6854546(BKG)	B12317004-20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854332	B12317004-21	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854540	B12317004-22	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854541	B12317004-23	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854542	B12317004-24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854543	B12317004-25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854544	B12317004-26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854545	B12317004-27	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCV3	B12317004-28	200838.44	N/A	200838.439	250.000000	227.104048	-9.16	N/A

Meng Yu
Principal Chemist

Signature
11/20/12

NOV 20 2012

0111000000



LCMSMS ANALYSIS REPORT

Component Name: Hydrazine

Summary of Quan Results

Sample ID	Data File Name	Area	ISTD Area	Area Ratio	Specified Amount	Calculated Amount	% Diff	Excluded
Meoh	B12317004-01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SY(SMDL)	B12317004-02	1123.58	N/A	1123.576	N/A	0.735205	N/A	N/A
CAL1	B12317004-03	1638.11	N/A	1638.106	1.000000	0.918634	-8.14	N/A
CAL2	B12317004-04	5707.16	N/A	5707.164	2.000000	2.369241	18.46	N/A
CAL3	B12317004-05	13848.59	N/A	13848.595	5.000000	5.271637	5.43	N/A
CAL4	B12317004-06	24183.80	N/A	24183.796	10.000000	8.956107	-10.44	N/A
CAL5	B12317004-07	135347.34	N/A	135347.343	50.000000	48.585586	-2.83	N/A
CAL6	B12317004-08	264840.17	N/A	264840.172	100.000000	94.749402	-5.25	N/A
CAL7	B12317004-09	557282.04	N/A	557282.035	200.000000	199.004072	-0.50	N/A
CAL8	B12317004-10	723177.50	N/A	723177.498	250.000000	258.145320	3.26	N/A
Meoh	B12317004-11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BLK	B12317004-12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCV1	B12317004-13	14733.23	N/A	14733.229	5.000000	5.587007	11.74	N/A
ICV	B12317004-14	302172.47	N/A	302172.470	120.000000	108.058257	-9.95	N/A
LCS 12317004	B12317004-15	294177.33	N/A	294177.330	120.000000	105.208013	-12.33	N/A
LCSD 12317004	B12317004-16	320331.95	N/A	320331.947	120.000000	114.532057	-4.56	N/A
MS (6854547)	B12317004-17	19489.11	N/A	19489.107	N/A	7.282464	N/A	N/A
MSD (6854548)	B12317004-18	31947.37	N/A	31947.366	N/A	11.723796	N/A	N/A
CCV2	B12317004-19	28469.12	N/A	28469.116	10.000000	10.483811	4.84	N/A
6854546(BKG)	B12317004-20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854332	B12317004-21	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854540	B12317004-22	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854541	B12317004-23	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854542	B12317004-24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854543	B12317004-25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854544	B12317004-26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6854545	B12317004-27	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCV3	B12317004-28	126314.22	N/A	126314.216	50.000000	45.365303	-9.27	N/A

Handwritten signature and date: 11/21/12

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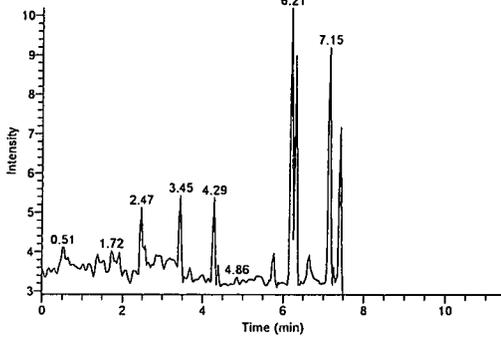
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Data File: B12317004-21
Sample Type: Unknown
Run Time(min): 11.49
Injection Volume(µl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 11:22:45 PM
Sample ID: 6854332
Vial: a:17
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Hydrazine	N/A	ng/g	N/A	N/A
1,1-Dimethylhydrazine	N/A	ng/g	N/A	N/A
Monomethylhydrazine	N/A	ng/g	N/A	N/A

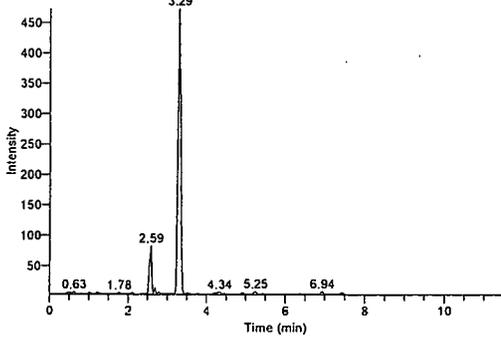
RT: 0.00 - 11.50 SM: 3G



NL: 1.02E1
 Base Peak m/z=
 103.50-104.50 F: + c APCI
 SRM ms2 135.150
 [77.325-77.335,
 104.135-104.145] MS
 B12317004-21

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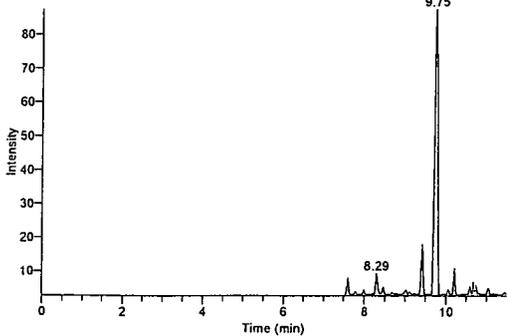
RT: 0.00 - 11.50 SM: 3G



NL: 4.73E2
 Base Peak m/z=
 105.50-106.50 F: + c APCI
 SRM ms2 149.100
 [77.325-77.335,
 106.215-106.225] MS
 B12317004-21

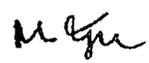
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RT: 0.00 - 11.50 SM: 3G



NL: 8.74E1
 Base Peak m/z=
 105.50-106.50 F: + c APCI
 SRM ms2 209.070
 [77.325-77.335,
 106.215-106.225] MS
 B12317004-21

There's no data available to display this graphic object.


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 Principal Chemist

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S/1,2
 11/21/12

Standards Data



Sequence Table

File Name	Sample ID	Sample Type	Level	Vial	Inj Vol	Dil Factor	Path	Inst Method	Proc Method
B12317004-01	Meoh	Unknown	N/A	b:1	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-02	SYS(MDL)	Unknown	N/A	a:28	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-03	CAL1	Std Bracket	1	a:29	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-04	CAL2	Std Bracket	2	a:30	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-05	CAL3	Std Bracket	3	a:31	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-06	CAL4	Std Bracket	4	a:32	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-07	CAL5	Std Bracket	5	a:33	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-08	CAL6	Std Bracket	6	a:34	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-09	CAL7	Std Bracket	7	a:35	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-10	CAL8	Std Bracket	8	a:36	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-11	Meoh	Unknown	N/A	b:1	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-12	BLK	Unknown	N/A	a:11	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-13	CCV1	QC	1	a:31	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-14	ICV	QC	ICV	a:12	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil

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**Lancaster
Laboratories**

File Name	Sample ID	Sample Type	Level	Vial	Inj Vol	Dil Factor	Path	Inst Method	Proc Method
B12317004-15	LCS 12317004	QC	ICV	a:13	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-16	LCSD 12317004	QC	ICV	a:14	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-17	MS (6854547)	Unknown	N/A	a:15	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-18	MSD (6854548)	Unknown	N/A	a:16	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-19	CCV2	QC	2	a:32	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-20	6854546(BKG)	Unknown	N/A	a:24	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-21	6854332	Unknown	N/A	a:17	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-22	6854540	Unknown	N/A	a:18	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-23	6854541	Unknown	N/A	a:19	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-24	6854542	Unknown	N/A	a:20	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-25	6854543	Unknown	N/A	a:21	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-26	6854544	Unknown	N/A	a:22	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-27	6854545	Unknown	N/A	a:23	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
B12317004-28	CCV3	QC	3	a:33	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2012\Quart4	C:\XCalibur\Hydrazine Analysis\Hydraz_TB	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil

0 1 2 3 4 5 6 7 8 9

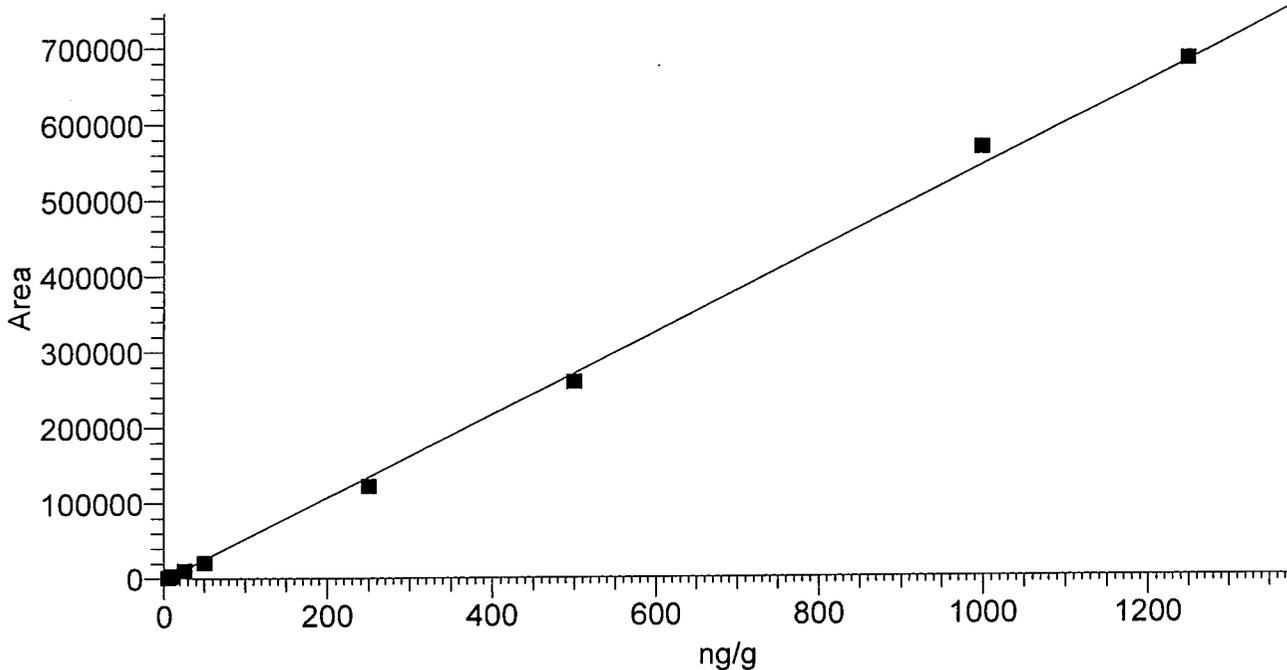
M. Yu
Meng Yu
Principal Chemist

Sg 11/20/12
11/20/12

NOV 20 2012

Component Name: Monomethylhydrazine

Monomethylhydrazine
 $Y = -2036.98 + 544.119 * X$ $R^2 = 0.9978$ $W: 1/X$



Identification Filter:	+ c APCI SRM ms2 135.15 [77.33-77.33, 104.14-104.15]	Component Name:	Monomethylhydrazine
2nd Trace Type:	N/A	1st Trace Type:	Base Peak
Mass Range 2 (m/z):	N/A	Mass Range 1 (m/z):	N/A
Base Peak(BP):	104	Wavelength Range 2 (nm):	N/A
Retention Time:		Expected RT (min):	4.45000
Window (sec):	30.00000	View Width (min):	2.50000
RT Reference:	No	Adjust Expected RT:	No
Adjust Using:	N/A	Peak Detection Algorithm:	ICIS
Detection Options:		ICIS Peak Integration:	
ICIS Smoothing Points:	3	Baseline Window:	100
Area Noise Factor:	5	Peak Noise Factor:	25
ICIS Constrain Peak Width:	Yes	ICIS Peak Height (%):	1.0
ICIS Tailing Factor:	5.0	ICIS Identify By:	Nearest RT
ICIS Peak Detection:		ICIS Ion Ratio Confirmation:	N/A
ICIS Minimum Peak Height (S/N):	25.0	ICIS Qualifier Ion Coelution (min):	N/A
ICIS Window %:	N/A	ICIS Spectrum Thresholds:	
ICIS Forward:	N/A	ICIS Reverse:	N/A
ICIS Match:	N/A	Noise Method:	Incos
ICIS Advanced Parameters:		Multiplet Resolution:	10
Minimum Peak Width:	3	Area Scan Window:	0
Area Tail Extension:	5	Calibration:	
Component Type:	Target Compound	%RSD Calculation Method:	Use calculated amounts
ISTD Amount:	N/A	Internal Standard:	
ISTD:		ISTD Units:	N/A
Origin:	IgnoreOrigin	Target Compounds:	
Calibration Curve:	Linear	Weighting:	OneOverX
Number of Cal. Levels:	8	Response:	Area
Scan Threshold (mAU):	N/A	Target Units:	ng/g
Limit Scan Range (mAU):	N/A	Number of QC Levels:	5
		Peak Purity Options:	
		Peak Coverage (%):	N/A

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S. Liu
11/21/12

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LCMSMS ANALYSIS REPORT

Component Cal Level Table

Calibration Levels	Amount (ng/g)
1	5.000
2	10.000
3	25.000
4	50.000
5	250.000
6	500.000
7	1000.000
8	1250.000

Component QC Level Table

QC Levels	Amount (ng/g)
ICV	600.000
1	25.000
2	50.000
3	250.000
4	500.000

ICV & CCV Result Table

Sample ID	Data File Name	Calculated Amount (ng/g)	Area	% Diff
CAL1	B12317004-03	6.472	1484.35	29.43
CAL2	B12317004-04	9.881	3339.42	-1.19
CAL3	B12317004-05	23.707	10862.63	-5.17
CAL4	B12317004-06	42.410	21039.15	-15.18
CAL5	B12317004-07	228.026	122036.32	-8.79
CAL6	B12317004-08	480.460	259390.12	-3.91
CAL7	B12317004-09	1044.152	566105.47	4.42
CAL8	B12317004-10	1254.892	680773.36	0.39
CCV1	B12317004-13	27.664	13015.72	10.66
ICV	B12317004-14	609.732	329729.31	1.62
LCS 12317004	B12317004-15	613.721	331900.22	2.29
LCSD 12317004	B12317004-16	642.983	347822.02	7.16
CCV2	B12317004-19	47.806	23975.34	-4.39
CCV3	B12317004-28	229.482	122828.48	-8.21

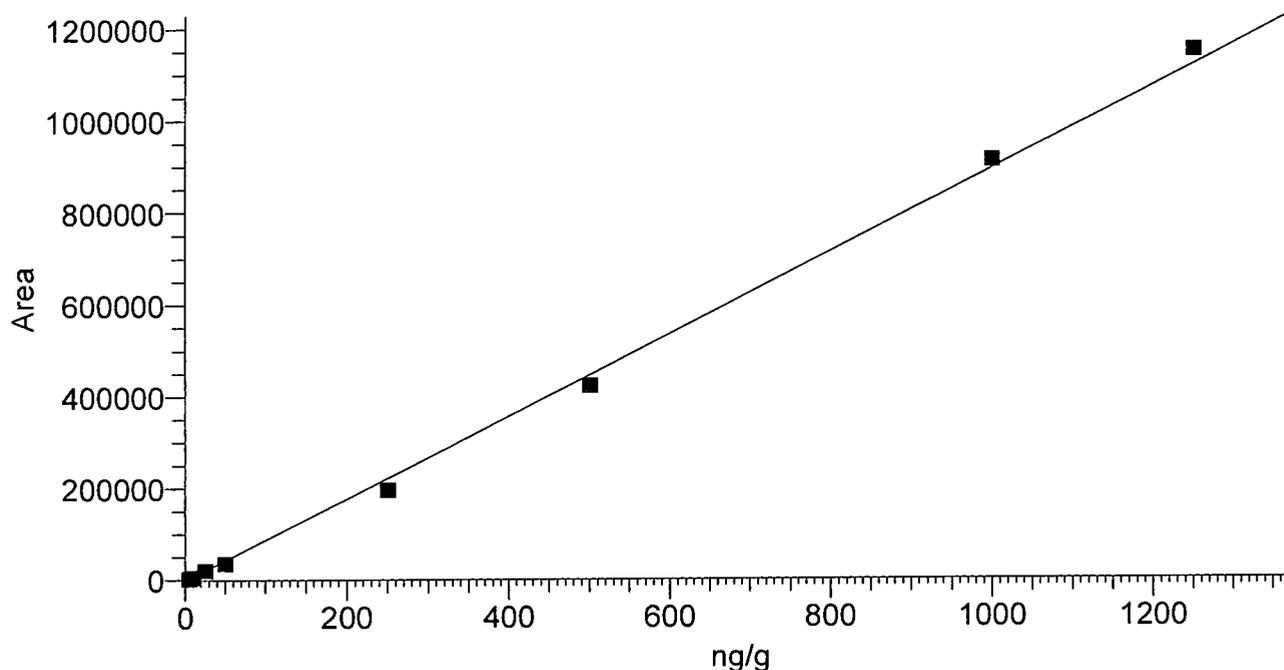
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Principal Chemist

NOV 20 2012

8/11/12 (8) *8/11/12*
11/21/12

Component Name: 1,1-Dimethylhydrazine

1,1-Dimethylhydrazine
 $Y = -2769.89 + 896.542 * X$ $R^2 = 0.9976$ $W: 1/X$



Identification Filter:	+ c APCI SRM ms2 149.10 [77.33-77.33, 106.22-106.22]	Component Name:	1,1-Dimethylhydrazine
2nd Trace Type:	N/A	1st Trace Type:	Base Peak
Mass Range 2 (m/z):	N/A	Mass Range 1 (m/z):	N/A
Base Peak(BP):	106	Wavelength Range 2 (nm):	N/A
Retention Time Window (sec):	30.00000	Expected RT (min):	6.70000
RT Reference:	No	View Width (min):	2.50000
Adjust Using:	N/A	Adjust Expected RT:	No
Detection Options		Peak Detection Algorithm:	ICIS
ICIS Smoothing Points:	3	ICIS Peak Integration	
Area Noise Factor:	5	Baseline Window:	75
ICIS Constrain Peak Width:	No	Peak Noise Factor:	10
ICIS Tailing Factor:	N/A	ICIS Peak Height (%):	N/A
ICIS Peak Detection		ICIS Identify By:	Nearest RT
ICIS Minimum Peak Height (S/N):	5.0	ICIS Ion Ratio Confirmation:	N/A
ICIS Window %:	N/A	ICIS Qualifier Ion Coelution (min):	N/A
ICIS Forward:	N/A	ICIS Spectrum Thresholds	
ICIS Match:	N/A	ICIS Reverse:	N/A
ICIS Advanced Parameters		Noise Method:	Incos
Minimum Peak Width:	3	Multiplet Resolution:	10
Area Tail Extension:	5	Area Scan Window:	0
Component Type:	Target Compound	Calibration	
ISTD Amount:	N/A	%RSD Calculation Method:	Use calculated amounts
ISTD:		Internal Standard	
Origin:	IgnoreOrigin	ISTD Units:	N/A
Calibration Curve:	Linear	Target Compounds	
Number of Cal. Levels:	8	Weighting:	OneOverX
Scan Threshold (mAU):	N/A	Response:	Area
Limit ScanRange (nm):	N/A	Target Units:	ng/g
		Number of QC Levels:	5
		Peak Purity Options	
		Peak Coverage (%):	N/A

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11/21/12*

LCMSMS ANALYSIS REPORT

Component Cal Level Table

Calibration Levels	Amount (ng/g)
1	5.000
2	10.000
3	25.000
4	50.000
5	250.000
6	500.000
7	1000.000
8	1250.000

Component QC Level Table

QC Levels	Amount (ng/g)
ICV	600.000
1	25.000
2	50.000
3	250.000
4	500.000

ICV & CCV Result Table

Sample ID	Data File Name	Calculated Amount (ng/g)	Area	% Diff
CAL1	B12317004-03	6.163	2755.09	23.25
CAL2	B12317004-04	9.662	5892.43	-3.38
CAL3	B12317004-05	26.152	20676.40	4.61
CAL4	B12317004-06	43.336	36083.08	-13.33
CAL5	B12317004-07	221.712	196004.43	-11.32
CAL6	B12317004-08	475.889	423885.00	-4.82
CAL7	B12317004-09	1020.994	912594.08	2.10
CAL8	B12317004-10	1286.092	1150265.32	2.89
CCV1	B12317004-13	31.334	25321.96	25.33
ICV	B12317004-14	574.864	512619.66	-4.19
LCS 12317004	B12317004-15	580.612	517772.80	-3.23
LCSD 12317004	B12317004-16	662.262	590976.20	10.38
CCV2	B12317004-19	49.868	41938.73	-0.26
CCV3	B12317004-28	227.104	200838.44	-9.16

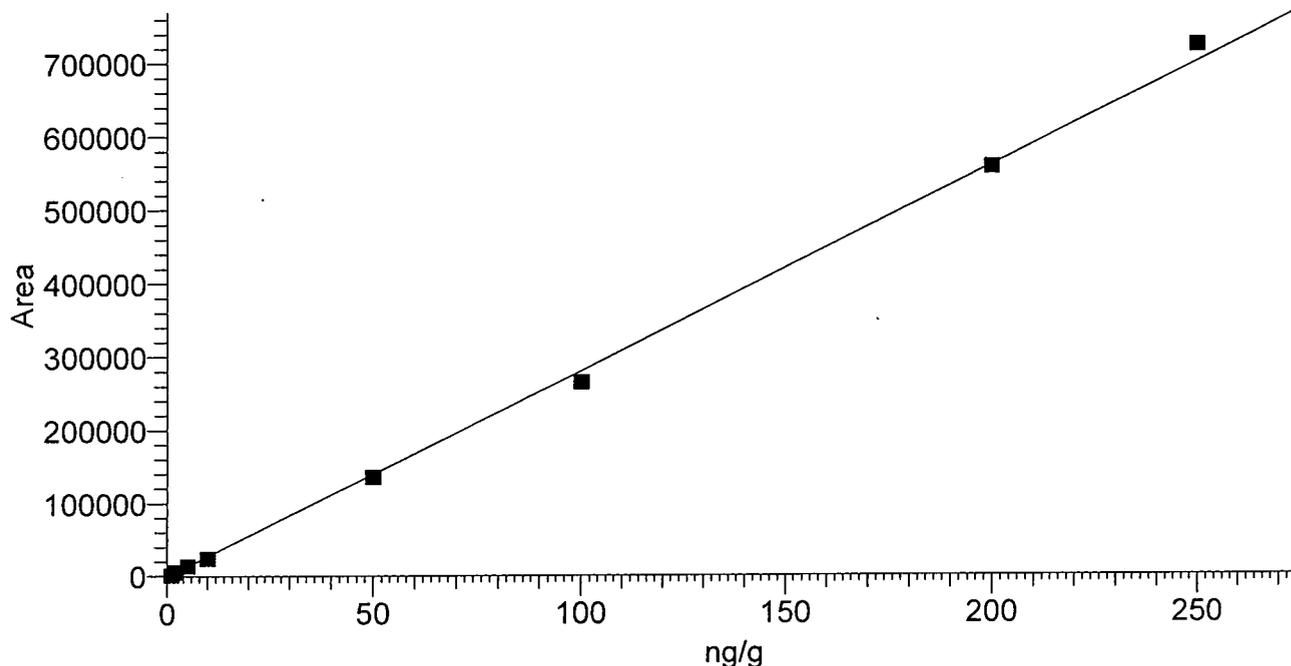
Meng Yu
Principal Chemist

NOV 20 2012

8/112
11/20/12

Component Name: Hydrazine

Hydrazine
 $Y = -938.728 + 2805.07 * X \quad R^2 = 0.9987 \quad W: 1/X$



Identification Filter:	+ c APCI SRM ms2 209.07 [77.33-77.33, 106.22-106.22]	Component Name:	Hydrazine
2nd Trace Type:	N/A	1st Trace Type:	Base Peak
Mass Range 2 (m/z):		Mass Range 1 (m/z):	
Base Peak (BP):	106	Wavelength Range 2 (nm):	N/A
Retention Time Window (sec):	30.00000	Expected RT (min):	9.70000
RT Reference:	No	View Width (min):	2.50000
Adjust Using:	N/A	Adjust Expected RT:	No
Detection Options		Peak Detection Algorithm:	ICIS
ICIS Smoothing Points:	3	ICIS Peak Integration	
Area Noise Factor:	5	Baseline Window:	100
ICIS Constrain Peak Width:	No	Peak Noise Factor:	10
ICIS Tailing Factor:	N/A	ICIS Peak Height (%):	N/A
ICIS Peak Detection		ICIS Identify By:	Nearest RT
ICIS Minimum Peak Height (S/N):	50.0	ICIS Ion Ratio Confirmation:	N/A
ICIS Window %:	N/A	ICIS Qualifier Ion Coelution (min):	N/A
ICIS Forward:	N/A	ICIS Spectrum Thresholds	
ICIS Match:	N/A	ICIS Reverse:	N/A
ICIS Advanced Parameters		Noise Method:	Incos
Minimum Peak Width:	3	Multiplet Resolution:	10
Area Tail Extension:	5	Area Scan Window:	0
Component Type:	Target Compound	Calibration	
ISTD Amount:	N/A	%RSD Calculation Method:	Use calculated amounts
ISTD:		Internal Standard	
Origin:	IgnoreOrigin	ISTD Units:	N/A
Calibration Curve:	Linear	Target Compounds	
Number of Cal. Levels:	8	Weighting:	OneOverX
Scan Threshold (mAU):	N/A	Response:	Area
Limit Scan Range (nm):	N/A	Target Units:	ng/g
		Number of QC Levels:	5
		Peak Purity Options	
		Peak Coverage (%):	N/A

Meng Yu
Principal Chemist

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OLN82 0029

LCMSMS ANALYSIS REPORT

Component Cal Level Table

Calibration Levels	Amount (ng/g)
1	1.000
2	2.000
3	5.000
4	10.000
5	50.000
6	100.000
7	200.000
8	250.000

Component QC Level Table

QC Levels	Amount (ng/g)
ICV	120.000
1	5.000
2	10.000
3	50.000
4	100.000

ICV & CCV Result Table

Sample ID	Data File Name	Calculated Amount (ng/g)	Area	% Diff
CAL1	B12317004-03	0.919	1638.11	-8.14
CAL2	B12317004-04	2.369	5707.16	18.46
CAL3	B12317004-05	5.272	13848.59	5.43
CAL4	B12317004-06	8.956	24183.80	-10.44
CAL5	B12317004-07	48.586	135347.34	-2.83
CAL6	B12317004-08	94.749	264840.17	-5.25
CAL7	B12317004-09	199.004	557282.04	-0.50
CAL8	B12317004-10	258.145	723177.50	3.26
CCV1	B12317004-13	5.587	14733.23	11.74
ICV	B12317004-14	108.058	302172.47	-9.95
LCS 12317004	B12317004-15	105.208	294177.33	-12.33
LCSD 12317004	B12317004-16	114.532	320331.95	-4.56
CCV2	B12317004-19	10.484	28469.12	4.84
CCV3	B12317004-28	45.365	126314.22	-9.27

Meng Yu
Meng Yu
Principal Chemist

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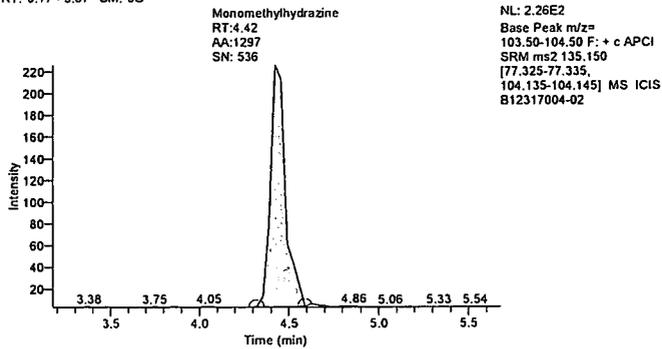
Sample Name: SYS(MDL)
Data File: B12317004-02
Sample Type: Unknown
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 05:56:32 PM
Sample ID: SYS(MDL)
Vial: a:28
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

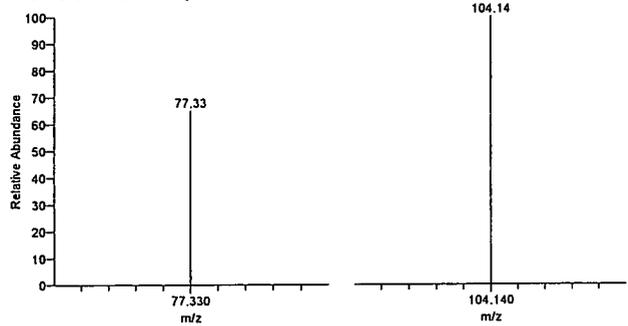
Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	6.127	ng/g	1296.962	4.42
1,1-Dimethylhydrazine	4.565	ng/g	1323.046	6.73
Hydrazine	0.735	ng/g	1123.576	9.61

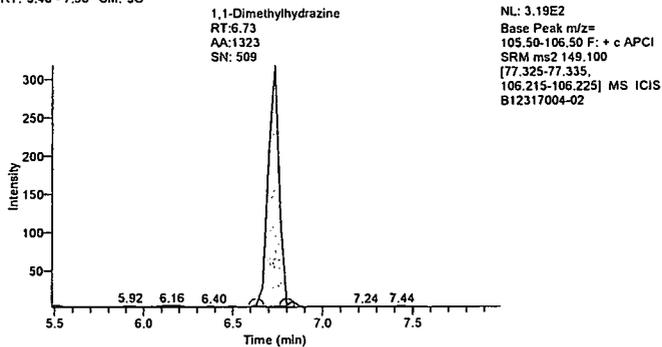
RT: 3.17 - 5.67 SM: 3G



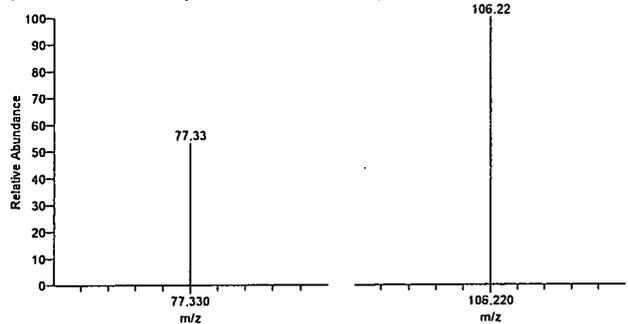
B12317004-02 #263 RT: 4.42 AV: 1 NL: 2.34E2 F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]



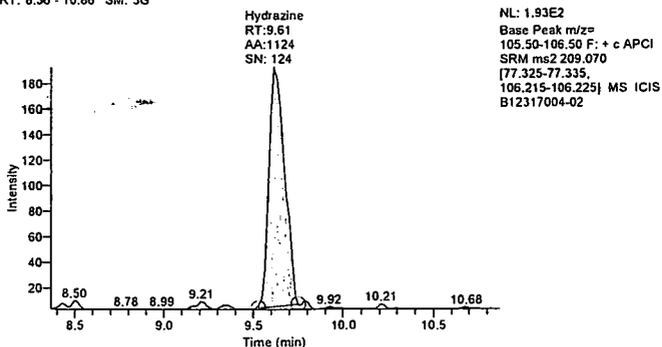
RT: 5.48 - 7.98 SM: 3G



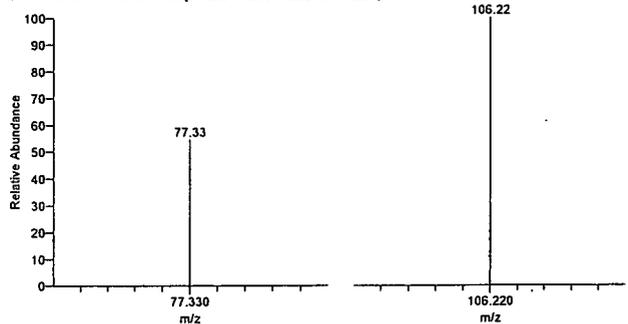
B12317004-02 #400 RT: 6.73 AV: 1 NL: 3.35E2 F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]



RT: 8.36 - 10.86 SM: 3G



B12317004-02 #570 RT: 9.61 AV: 1 NL: 1.95E2 F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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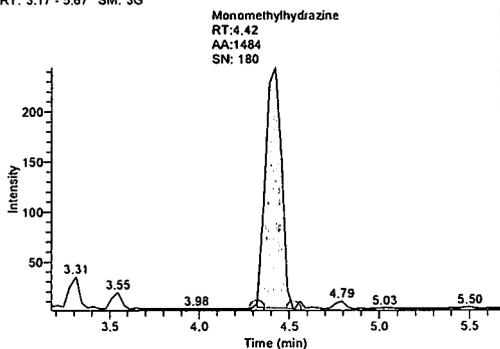
Sample Name: CAL1
Data File: B12317004-03
Sample Type: Std Bracket
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 06:13:49 PM
Sample ID: CAL1
Vial: a:29
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	6.472	ng/g	1484.348	4.42
1,1-Dimethylhydrazine	6.163	ng/g	2755.085	6.73
Hydrazine	0.919	ng/g	1638.106	9.72

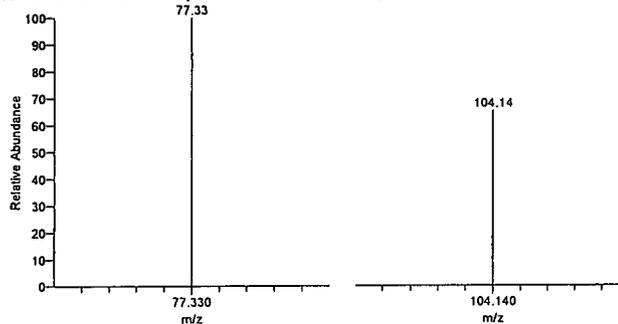
RT: 3.17 - 5.67 SM: 3G



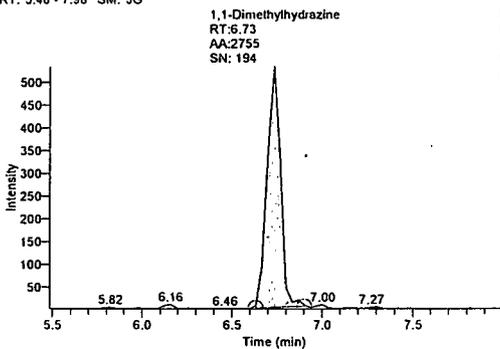
Monomethylhydrazine
 RT: 4.42
 AA: 1484
 SN: 180

NL: 2.44E2
 Base Peak m/z =
 103.50-104.50 F: + c APCI
 SRM ms2 135.150
 [77.325-77.335,
 104.135-104.145] MS ICIS
 B12317004-03

B12317004-03 #263 RT: 4.42 AV: 1 NL: 3.83E2
F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]



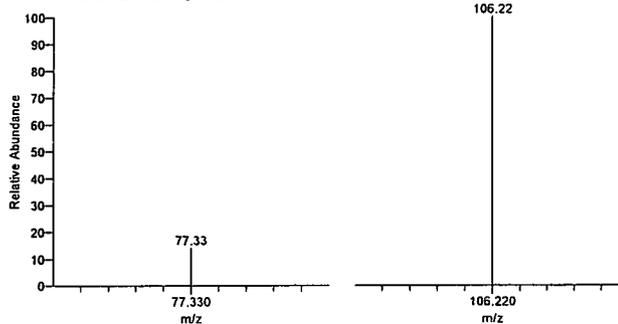
RT: 5.48 - 7.98 SM: 3G



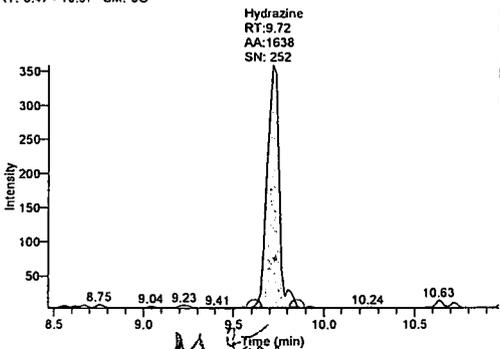
1,1-Dimethylhydrazine
 RT: 6.73
 AA: 2755
 SN: 194

NL: 5.35E2
 Base Peak m/z =
 105.50-106.50 F: + c APCI
 SRM ms2 149.100
 [77.325-77.335,
 106.215-106.225] MS ICIS
 B12317004-03

B12317004-03 #400 RT: 6.73 AV: 1 NL: 5.53E2
F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]



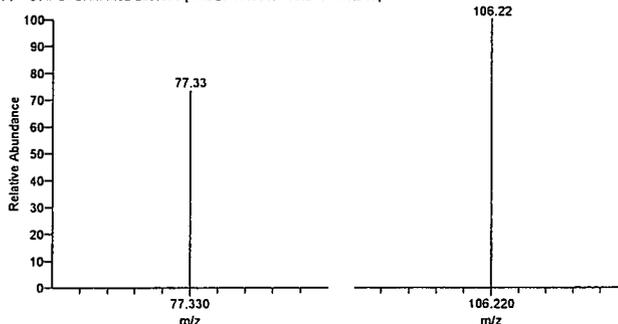
RT: 8.47 - 10.97 SM: 3G



Hydrazine
 RT: 9.72
 AA: 1638
 SN: 252

NL: 3.59E2
 Base Peak m/z =
 105.50-106.50 F: + c APCI
 SRM ms2 209.070
 [77.325-77.335,
 106.215-106.225] MS ICIS
 B12317004-03

B12317004-03 #576 RT: 9.72 AV: 1 NL: 3.63E2
F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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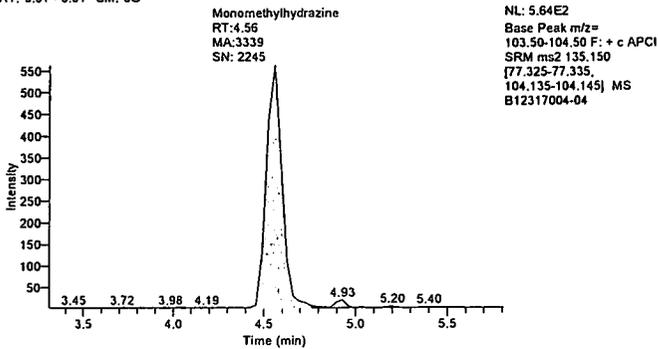
Sample Name: CAL2
Data File: B12317004-04
Sample Type: Std Bracket
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 06:31:00 PM
Sample ID: CAL2
Vial: a:30
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

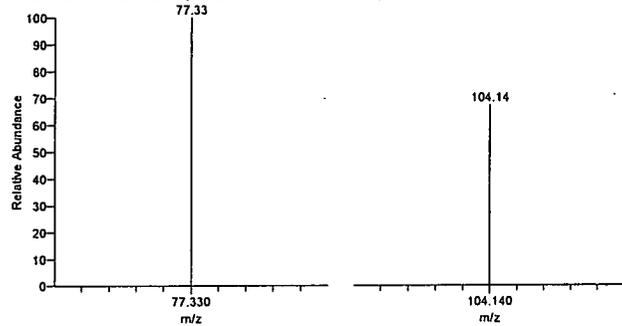
Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	9.881	ng/g	3339.416	4.56
1,1-Dimethylhydrazine	9.662	ng/g	5892.427	6.73
Hydrazine	2.369	ng/g	5707.164	9.50

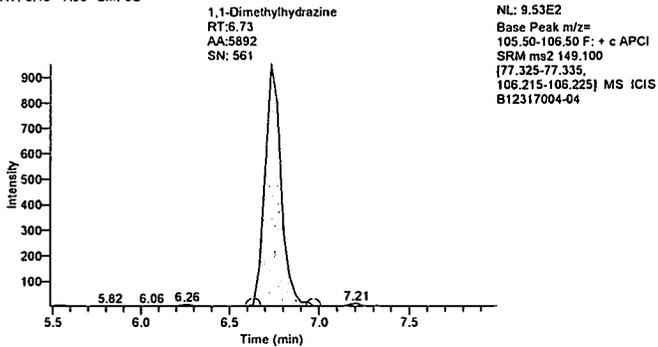
RT: 3.31 - 5.81 SM: 3G



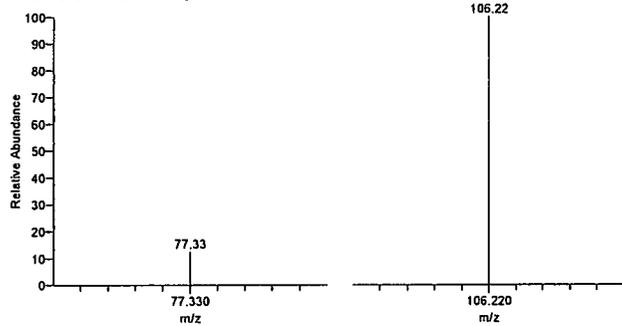
B12317004-04 #271 RT: 4.56 AV: 1 NL: 8.67E2
F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]



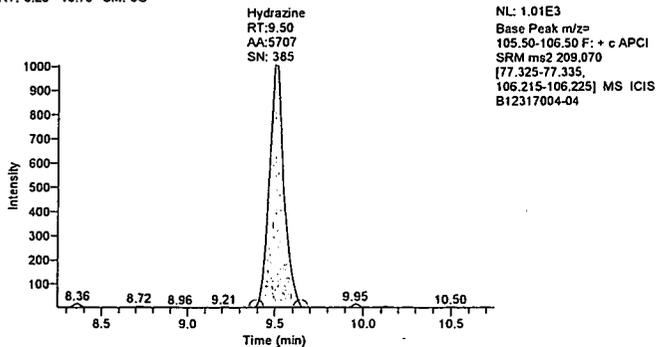
RT: 5.48 - 7.98 SM: 3G



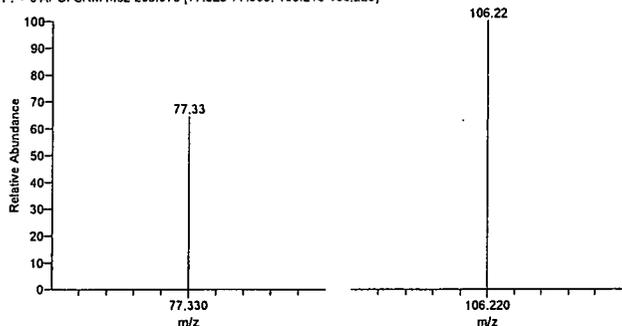
B12317004-04 #400 RT: 6.73 AV: 1 NL: 9.81E2
F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]



RT: 8.25 - 10.75 SM: 3G



B12317004-04 #563 RT: 9.50 AV: 1 NL: 1.02E3
F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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Principal Chemist

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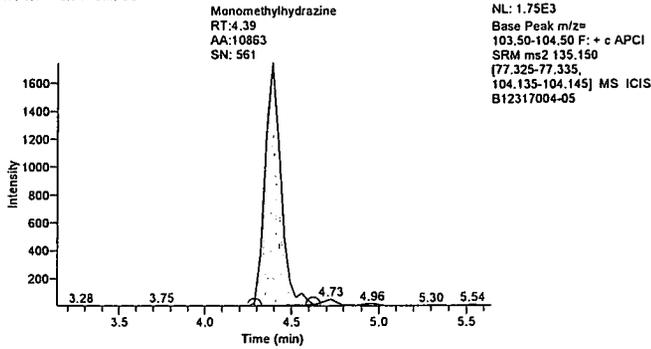
Sample Name: CAL3
Data File: B12317004-05
Sample Type: Std Bracket
Run Time(min): 11.49
Injection Volume(µl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 06:48:08 PM
Sample ID: CAL3
Vial: a:31
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

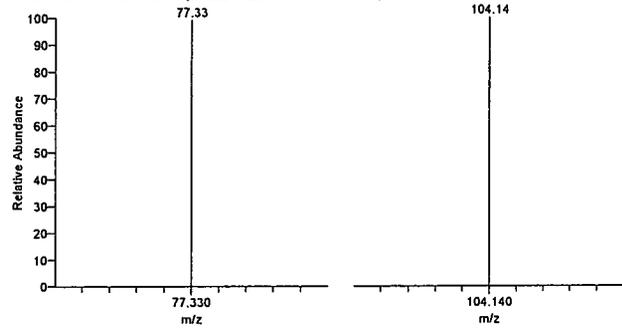
Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	23.707	ng/g	10862.632	4.39
1,1-Dimethylhydrazine	26.152	ng/g	20676.400	6.73
Hydrazine	5.272	ng/g	13848.595	9.55

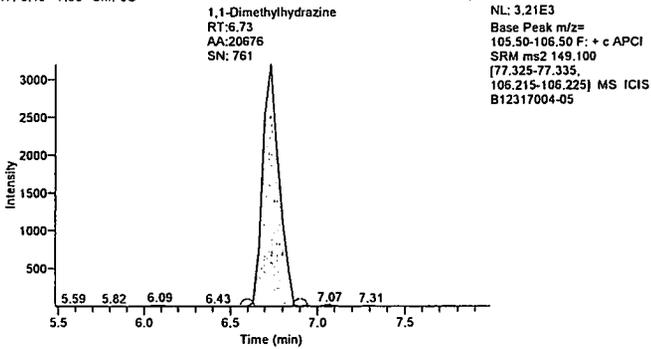
RT: 3.14 - 5.64 SM: 3G



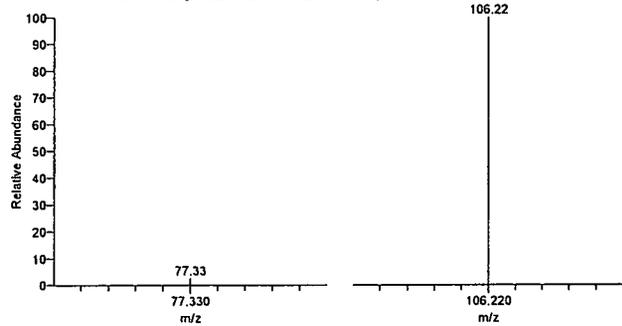
B12317004-05 #261 RT: 4.39 AV: 1 NL: 1.80E3
 F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]



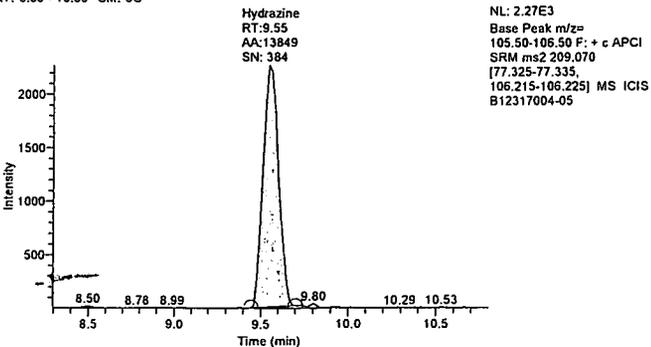
RT: 5.48 - 7.98 SM: 3G



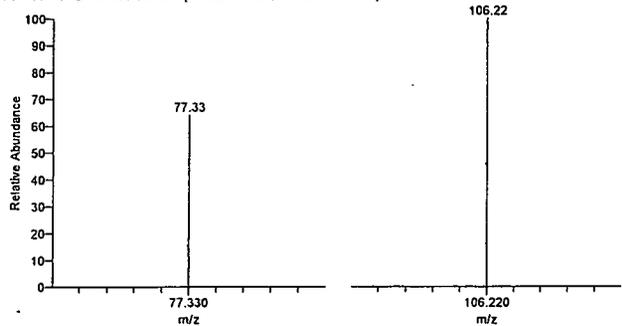
B12317004-05 #400 RT: 6.73 AV: 1 NL: 3.30E3
 F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]



RT: 8.30 - 10.80 SM: 3G



B12317004-05 #566 RT: 9.55 AV: 1 NL: 2.29E3
 F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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 Principal Chemist

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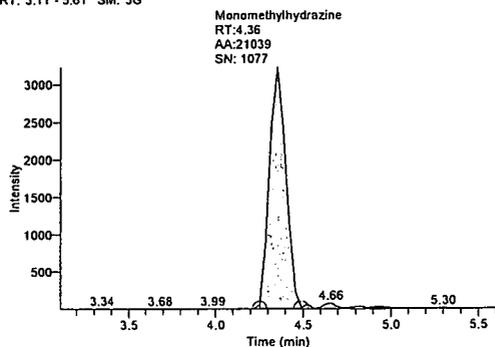
Sample Name: CAL4
Data File: B12317004-06
Sample Type: Std Bracket
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 07:05:17 PM
Sample ID: CAL4
Vial: a:32
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	42.410	ng/g	21039.153	4.36
1,1-Dimethylhydrazine	43.336	ng/g	36083.076	6.73
Hydrazine	8.956	ng/g	24183.796	9.72

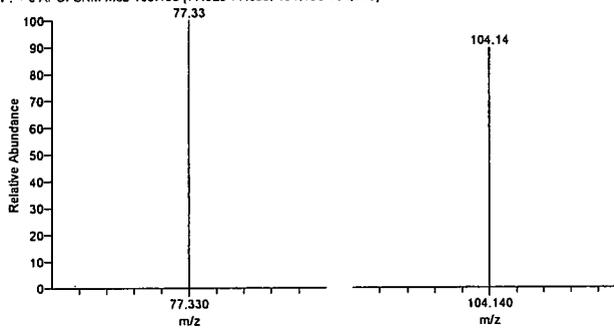
RT: 3.11 - 5.61 SM: 3G



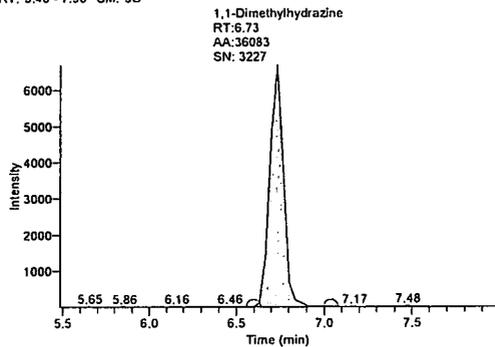
Monomethylhydrazine
RT: 4.36
AA: 21039
SN: 1077

NL: 3.24E3
Base Peak m/z =
103.50-104.50 F: + c APCI
SRM ms2 135.150
[77.325-77.335,
104.135-104.145] MS ICIS
B12317004-06

B12317004-06 #259 RT: 4.36 AV: 1 NL: 3.70E3
F: + c APCI SRM ins2 135.150 [77.325-77.335, 104.135-104.145]



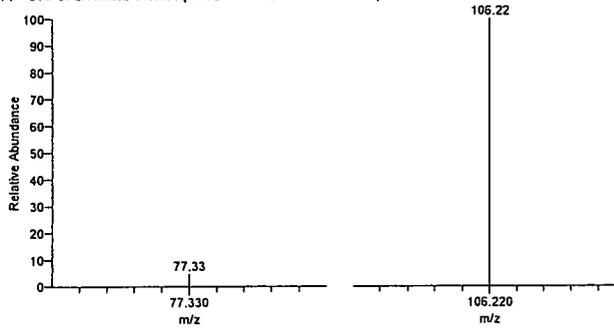
RT: 5.48 - 7.98 SM: 3G



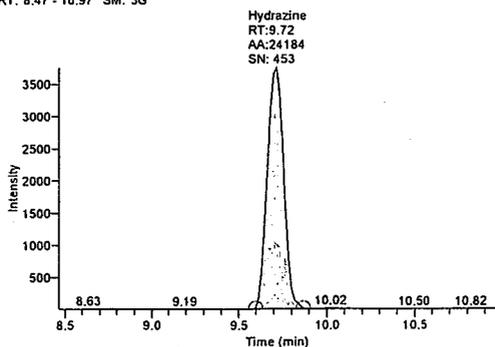
1,1-Dimethylhydrazine
RT: 6.73
AA: 36083
SN: 3227

NL: 6.71E3
Base Peak m/z =
105.50-106.50 F: + c APCI
SRM ms2 149.100
[77.325-77.335,
106.215-106.225] MS ICIS
B12317004-06

B12317004-06 #400 RT: 6.73 AV: 1 NL: 6.94E3
F: + c APCI SRM ins2 149.100 [77.325-77.335, 106.215-106.225]



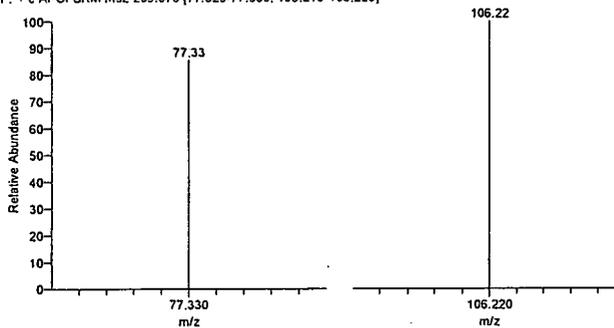
RT: 8.47 - 10.97 SM: 3G



Hydrazine
RT: 9.72
AA: 24184
SN: 453

NL: 3.77E3
Base Peak m/z =
105.50-106.50 F: + c APCI
SRM ms2 209.070
[77.325-77.335,
106.215-106.225] MS ICIS
B12317004-06

B12317004-06 #576 RT: 9.72 AV: 1 NL: 3.79E3
F: + c APCI SRM ins2 209.070 [77.325-77.335, 106.215-106.225]



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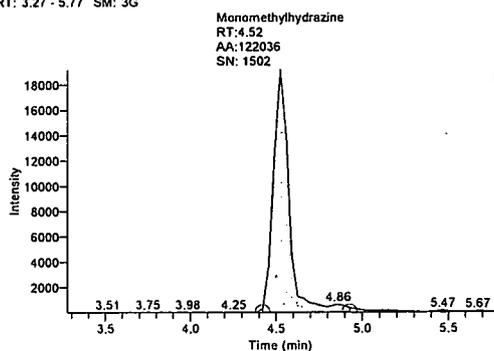
Sample Name: CAL5
Data File: B12317004-07
Sample Type: Std Bracket
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 07:22:26 PM
Sample ID: CAL5
Vial: a:33
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

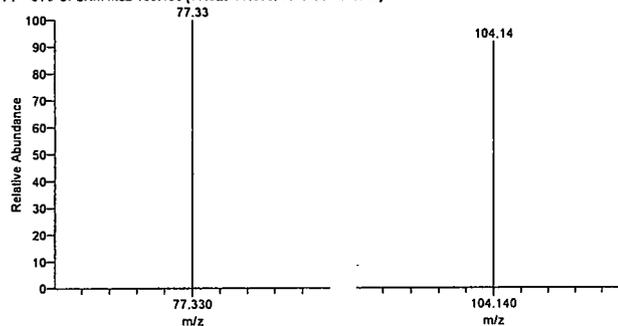
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	228.026	ng/g	122036.316	4.52
1,1-Dimethylhydrazine	221.712	ng/g	196004.433	6.80
Hydrazine	48.586	ng/g	135347.343	9.83

RT: 3.27 - 5.77 SM: 3G

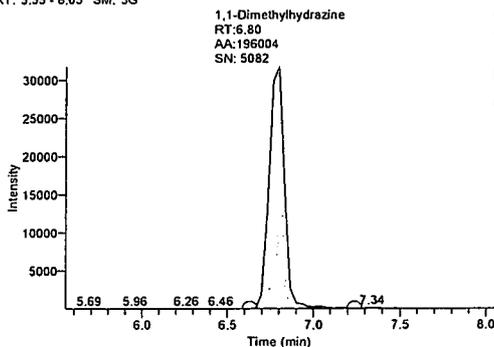


NL: 1.92E4
 Base Peak m/z = 103.50-104.50 F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145] MS ICIS B12317004-07

B12317004-07 #269 RT: 4.52 AV: 1 NL: 2.16E4 F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]

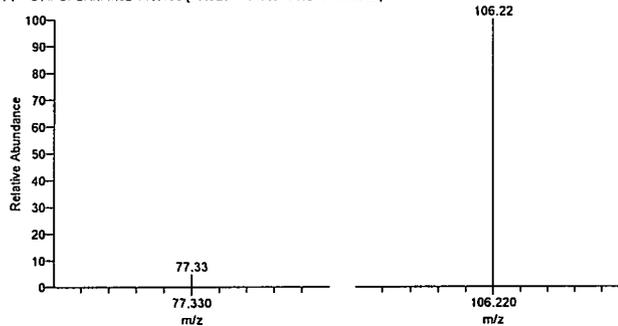


RT: 5.55 - 8.05 SM: 3G

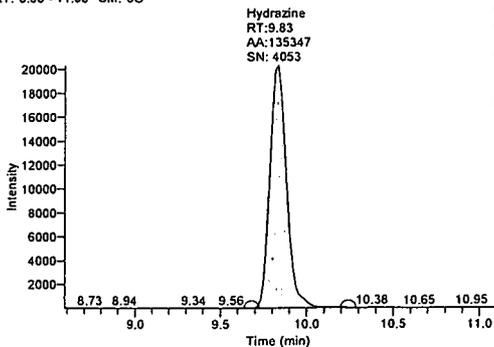


NL: 3.18E4
 Base Peak m/z = 105.50-106.50 F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225] MS ICIS B12317004-07

B12317004-07 #404 RT: 6.80 AV: 1 NL: 3.27E4 F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]

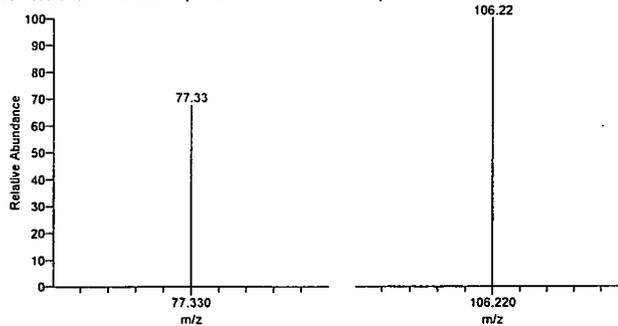


RT: 8.58 - 11.08 SM: 3G



NL: 2.04E4
 Base Peak m/z = 105.50-106.50 F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225] MS ICIS B12317004-07

B12317004-07 #583 RT: 9.83 AV: 1 NL: 2.05E4 F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



Meng Yu
Principal Chemist

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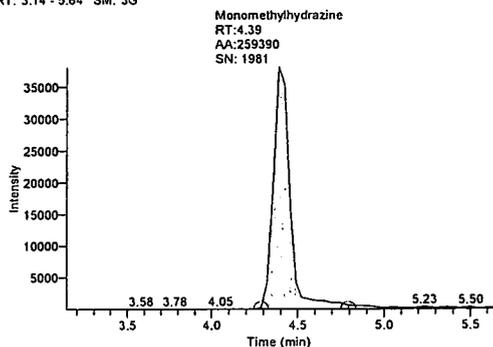
Sample Name: CAL6
Data File: B12317004-08
Sample Type: Std Bracket
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 07:39:34 PM
Sample ID: CAL6
Vial: a:34
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

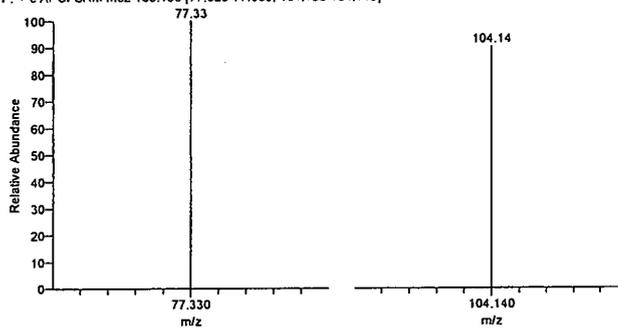
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	480.460	ng/g	259390.118	4.39
1,1-Dimethylhydrazine	475.889	ng/g	423884.995	6.73
Hydrazine	94.749	ng/g	264840.172	9.65

RT: 3.14 - 5.64 SM: 3G

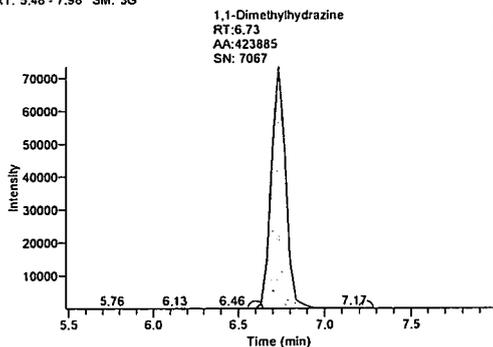


NL: 3.82E4
 Base Peak m/z=
 103.50-104.50 F: + c APCI
 SRM ms2 135.150
 [77.325-77.335,
 104.135-104.145] MS ICIS
 B12317004-08

B12317004-08 #261 RT: 4.39 AV: 1 NL: 4.34E4
F: + c APCI SRM ins2 135.150 [77.325-77.335, 104.135-104.145]

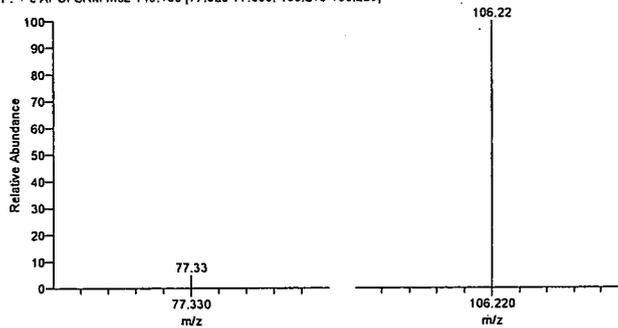


RT: 5.48 - 7.98 SM: 3G

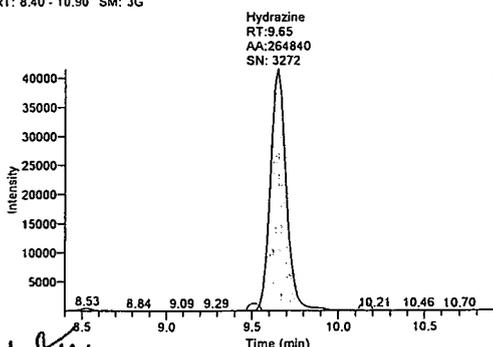


NL: 7.36E4
 Base Peak m/z=
 105.50-106.50 F: + c APCI
 SRM ms2 149.100
 [77.325-77.335,
 106.215-106.225] MS ICIS
 B12317004-08

B12317004-08 #400 RT: 6.73 AV: 1 NL: 7.59E4
F: + c APCI SRM ins2 149.100 [77.325-77.335, 106.215-106.225]

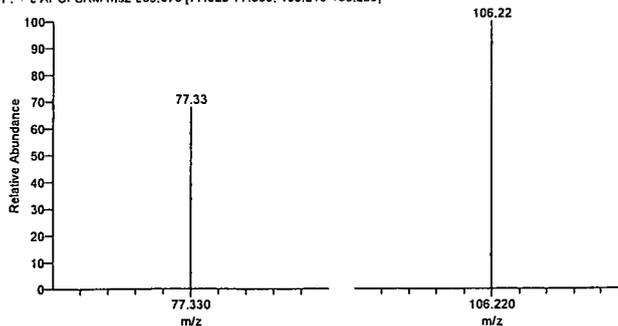


RT: 8.40 - 10.90 SM: 3G



NL: 4.16E4
 Base Peak m/z=
 105.50-106.50 F: + c APCI
 SRM ms2 209.070
 [77.325-77.335,
 106.215-106.225] MS ICIS
 B12317004-08

B12317004-08 #572 RT: 9.65 AV: 1 NL: 4.19E4
F: + c APCI SRM ins2 209.070 [77.325-77.335, 106.215-106.225]



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Principal Chemist

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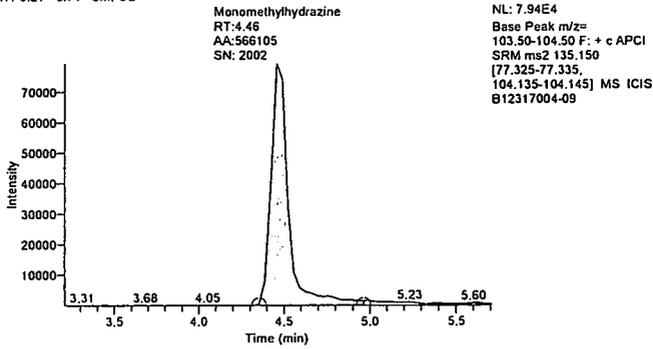
Sol¹¹²
11/20/12

Sample Name: CAL7
Data File: B12317004-09 **Acquisition Date:** 11/19/12 07:56:43 PM
Sample Type: Std Bracket **Sample ID:** CAL7
Run Time(min): 11.49 **Vial:** a:35
Injection Volume(µl): 5.00 **Instrument Software Version:** 2.3.0.1206 SP1
Dilution Factor: 1.00 **Instrument Name:** TSQ
Instrument Model: TSQ Quantum Access **Instrument Serial Number:** TQU01408
Instrument Method: C:\XCalibur\Hydrazine **Original Data Path:** C:\XCalibur\Hydrazine
Operator: Analysis\Hydraz_TB
 Quantum Analysis\2012\Quart4

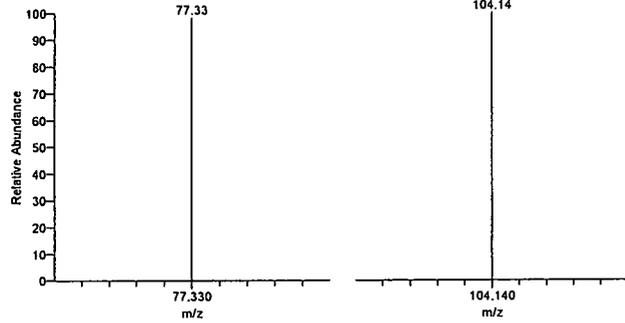
Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	1044.152	ng/g	566105.467	4.46
1,1-Dimethylhydrazine	1020.994	ng/g	912594.078	6.80
Hydrazine	199.004	ng/g	557282.035	9.67

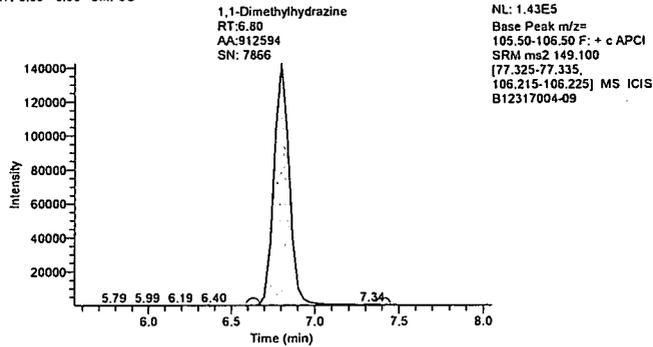
RT: 3.21 - 5.71 SM: 3G



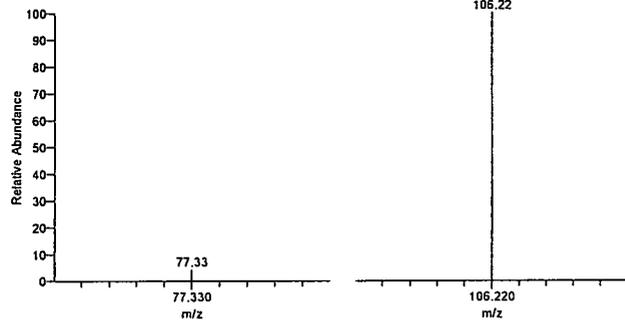
B12317004-09 #265 RT: 4.46 AV: 1 NL: 8.16E4
F: + c APCI SRM ins2 135.150 [77.325-77.335, 104.135-104.145]



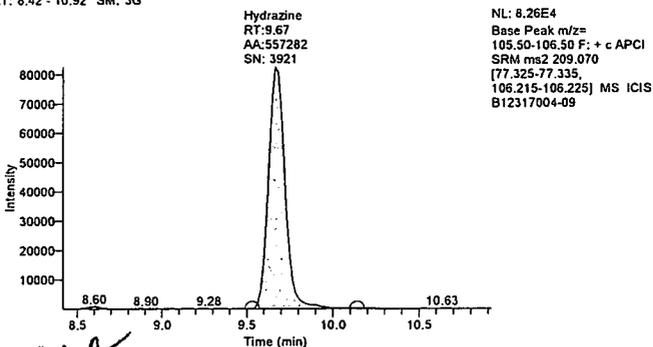
RT: 5.55 - 8.05 SM: 3G



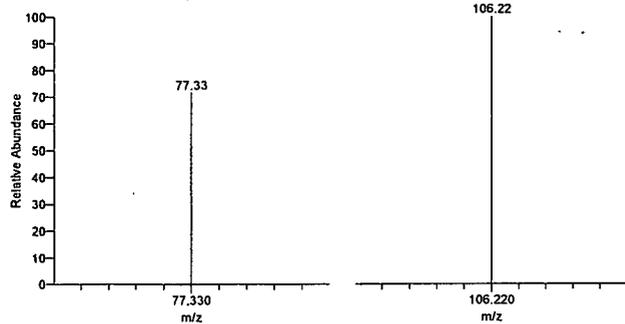
B12317004-09 #404 RT: 6.80 AV: 1 NL: 1.47E5
F: + c APCI SRM ins2 149.100 [77.325-77.335, 106.215-106.225]



RT: 8.42 - 10.92 SM: 3G



B12317004-09 #573 RT: 9.67 AV: 1 NL: 8.32E4
F: + c APCI SRM ins2 209.070 [77.325-77.335, 106.215-106.225]



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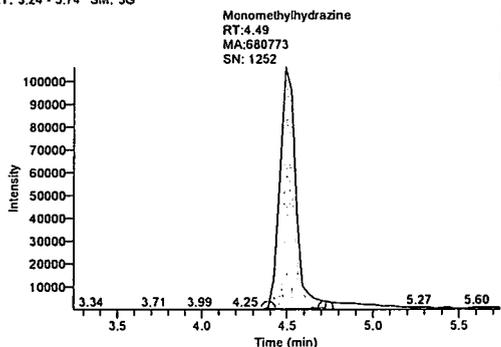
Sample Name: CAL8
Data File: B12317004-10
Sample Type: Std Bracket
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 08:13:54 PM
Sample ID: CAL8
Vial: a:36
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

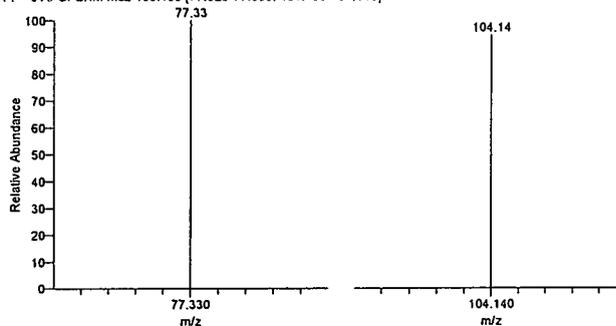
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	1254.892	ng/g	680773.356	4.49
1,1-Dimethylhydrazine	1286.092	ng/g	1150265.322	6.83
Hydrazine	258.145	ng/g	723177.498	9.77

RT: 3.24 - 5.74 SM: 3G

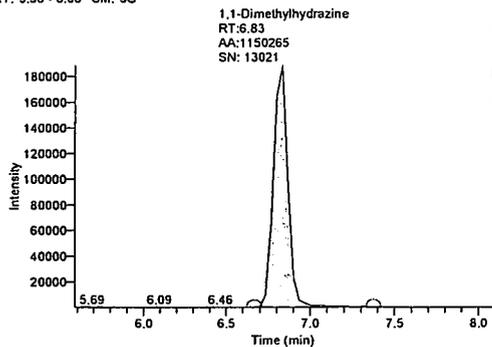


NL: 1.06E5
 Base Peak m/z = 103.50-104.50 F: + c APCI
 SRM ms2 135.150 [77.325-77.335, 104.135-104.145] MS
 B12317004-10

B12317004-10 #267 RT: 4.49 AV: 1 NL: 1.16E5
F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]

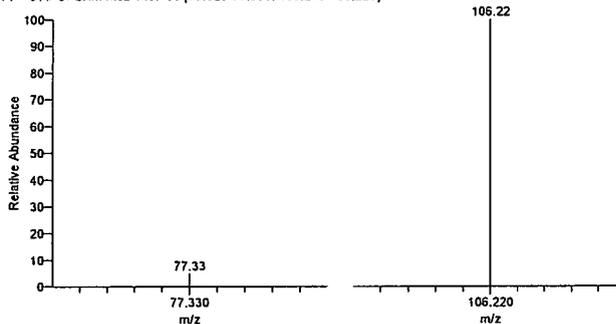


RT: 5.58 - 8.08 SM: 3G

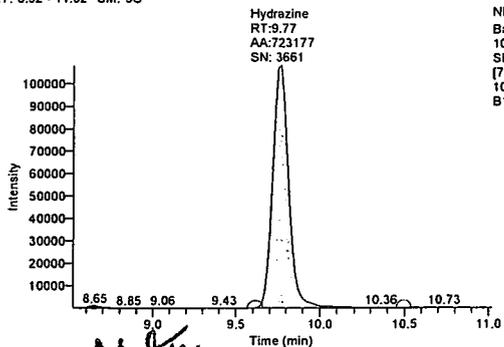


NL: 1.89E5
 Base Peak m/z = 105.50-106.50 F: + c APCI
 SRM ms2 149.100 [77.325-77.335, 106.215-106.225] MS ICIS
 B12317004-10

B12317004-10 #406 RT: 6.83 AV: 1 NL: 1.94E5
F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]

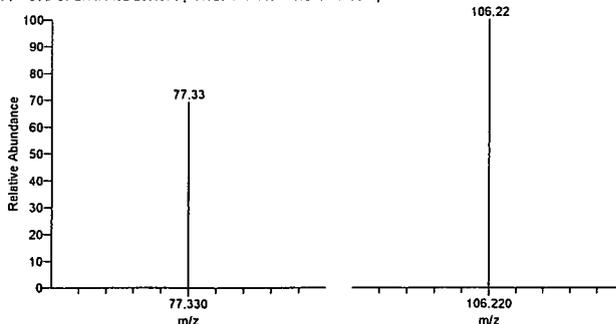


RT: 8.52 - 11.02 SM: 3G



NL: 1.08E5
 Base Peak m/z = 105.50-106.50 F: + c APCI
 SRM ms2 209.070 [77.325-77.335, 106.215-106.225] MS ICIS
 B12317004-10

B12317004-10 #579 RT: 9.77 AV: 1 NL: 1.09E5
F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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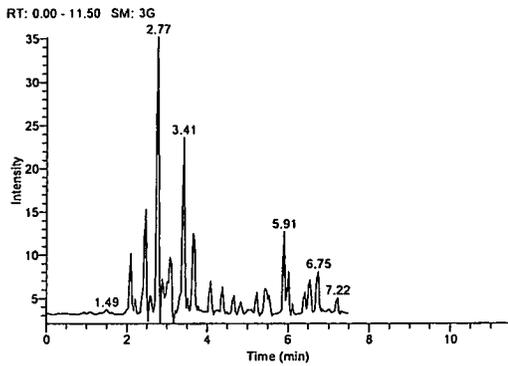
Handwritten signature and date: 8/11/12, 11/21/12

Sample Name: Meoh
Data File: B12317004-11
Sample Type: Unknown
Run Time(min): 11.49
Injection Volume(µl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

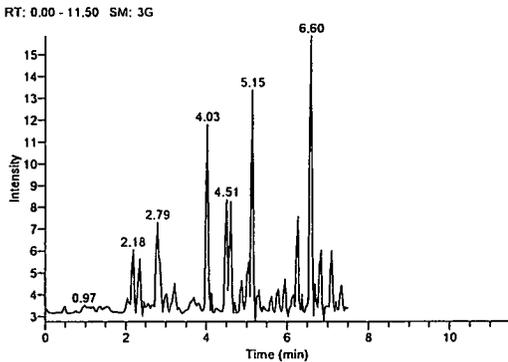
Acquisition Date: 11/19/12 08:31:01 PM
Sample ID: Meoh
Vial: b:1
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

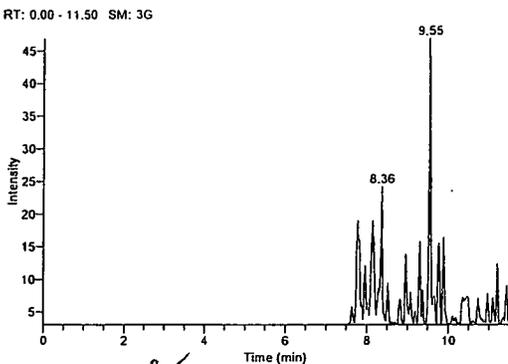
Component Name	Calculated Amount	Units	Response Ratio	RT
Hydrazine	N/A	ng/g	N/A	N/A
1,1-Dimethylhydrazine	N/A	ng/g	N/A	N/A
Monomethylhydrazine	N/A	ng/g	N/A	N/A



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Sample Name: CCV1

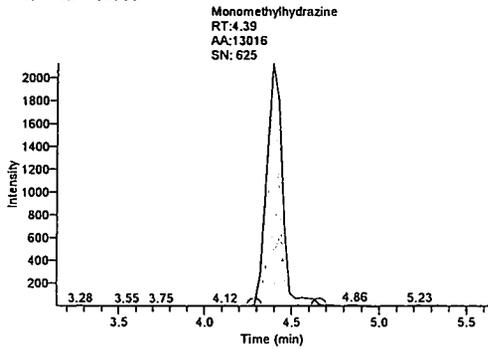
Data File: B12317004-13
Sample Type: QC
Run Time(min): 11.49
Injection Volume(µl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 09:05:20 PM
Sample ID: CCV1
Vial: a:31
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

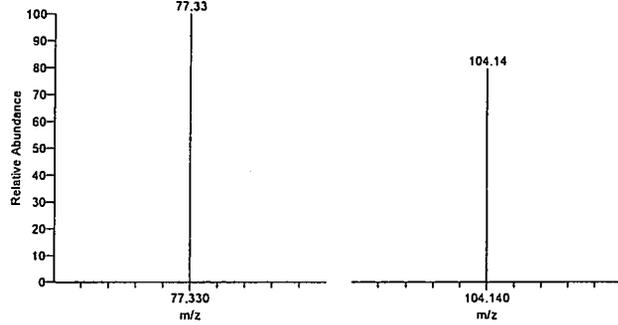
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	27.664	ng/g	13015.718	4.39
1,1-Dimethylhydrazine	31.334	ng/g	25321.955	6.43
Hydrazine	5.587	ng/g	14733.229	9.02

RT: 3.14 - 5.64 SM: 3G

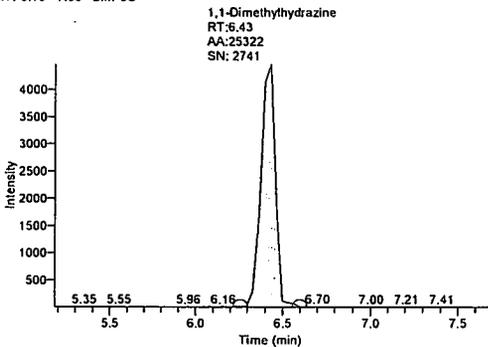


NL: 2.13E3
 Base Peak m/z= 103.50-104.50 F: + c APCI
 SRM ms2 135.150 [77.325-77.335, 104.135-104.145] MS ICIS
 B12317004-13

B12317004-13 #261 RT: 4.39 AV: 1 NL: 2.75E3
 F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]

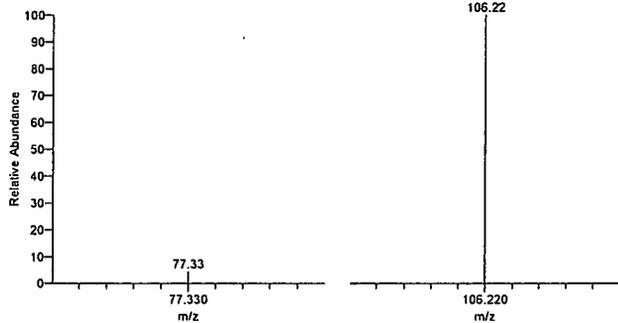


RT: 5.18 - 7.68 SM: 3G

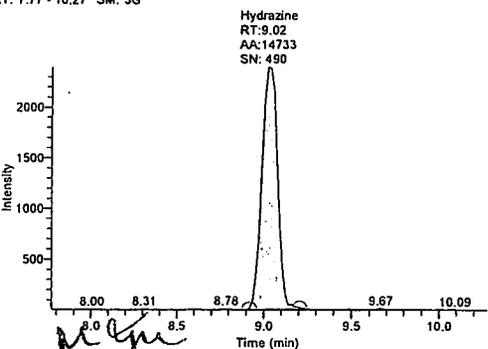


NL: 4.47E3
 Base Peak m/z= 105.50-106.50 F: + c APCI
 SRM ms2 149.100 [77.325-77.335, 106.215-106.225] MS ICIS
 B12317004-13

B12317004-13 #382 RT: 6.43 AV: 1 NL: 4.63E3
 F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]

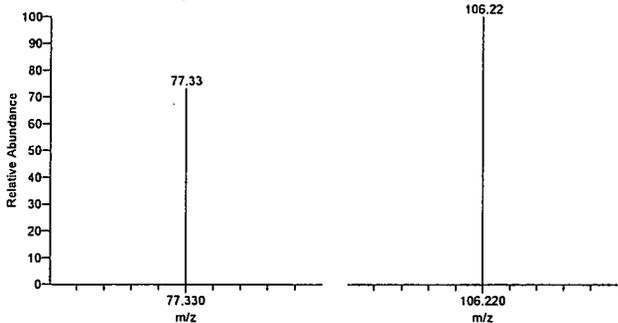


RT: 7.77 - 10.27 SM: 3G



NL: 2.40E3
 Base Peak m/z= 105.50-106.50 F: + c APCI
 SRM ms2 209.070 [77.325-77.335, 106.215-106.225] MS ICIS
 B12317004-13

B12317004-13 #535 RT: 9.02 AV: 1 NL: 2.41E3
 F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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Sample Name: ICV

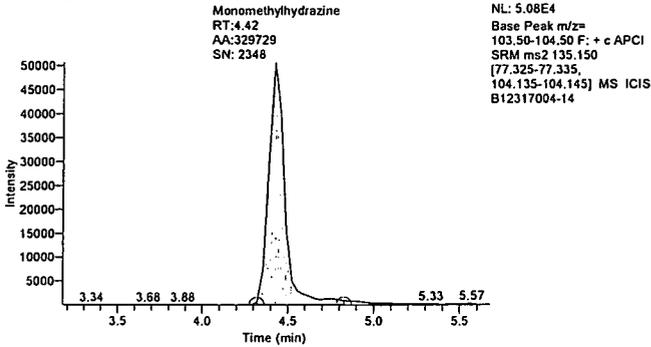
Data File: B12317004-14
 Sample Type: QC
 Run Time(min): 11.49
 Injection Volume(μl): 5.00
 Dilution Factor: 1.00
 Instrument Model: TSQ Quantum Access
 Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
 Operator: Quantum

Acquisition Date: 11/19/12 09:22:33 PM
 Sample ID: ICV
 Vial: a:12
 Instrument Software Version: 2.3.0.1206 SP1
 Instrument Name: TSQ
 Instrument Serial Number: TQU01408
 Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

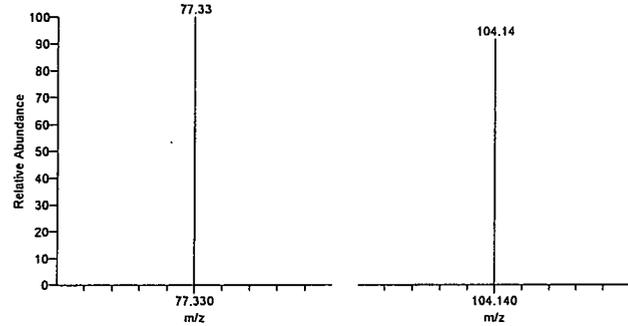
Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	609.732	ng/g	329729.306	4.42
1,1-Dimethylhydrazine	574.864	ng/g	512619.660	6.67
Hydrazine	108.058	ng/g	302172.470	9.33

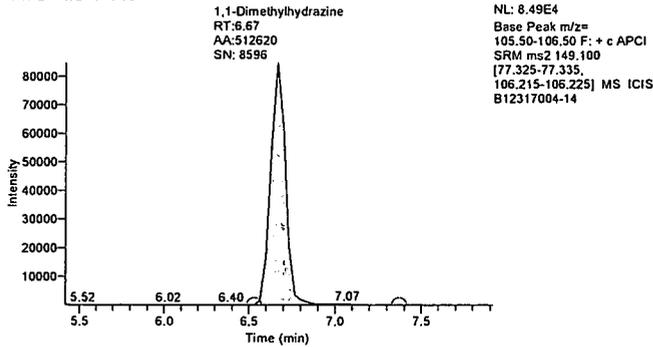
RT: 3.17 - 5.67 SM: 3G



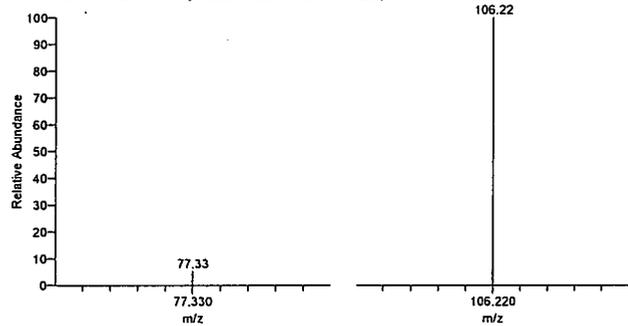
B12317004-14 #263 RT: 4.42 AV: 1 NL: 5.70E4
 F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]



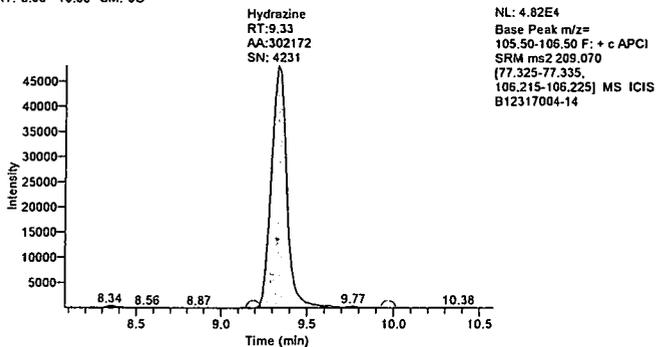
RT: 5.42 - 7.92 SM: 3G



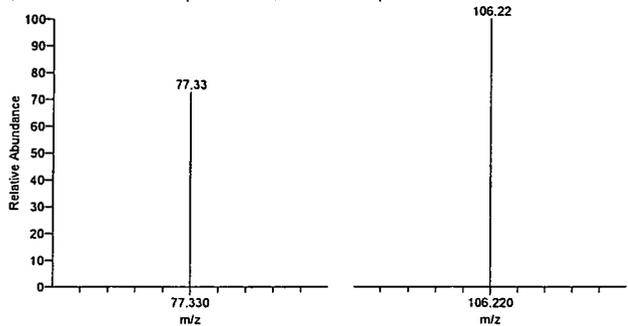
B12317004-14 #396 RT: 6.67 AV: 1 NL: 8.74E4
 F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]



RT: 8.08 - 10.58 SM: 3G



B12317004-14 #553 RT: 9.33 AV: 1 NL: 4.86E4
 F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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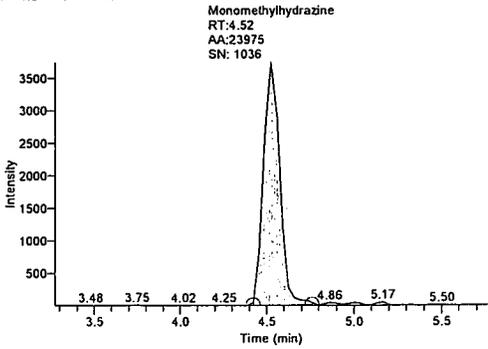
Sample Name: CCV2
Data File: B12317004-19
Sample Type: QC
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 10:48:23 PM
Sample ID: CCV2
Vial: a:32
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

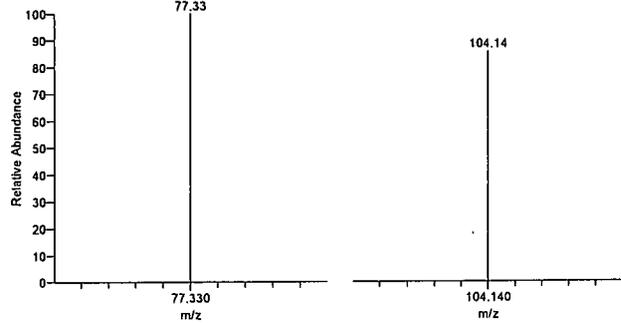
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	47.806	ng/g	23975.336	4.52
1,1-Dimethylhydrazine	49.868	ng/g	41938.733	6.94
Hydrazine	10.484	ng/g	28469.116	9.75

RT: 3.27 - 5.77 SM: 3G

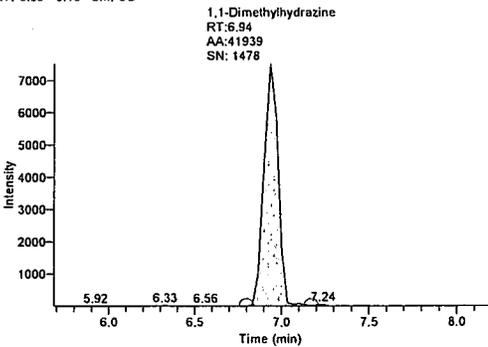


NL: 3.74E3
 Base Peak m/z =
 103.50-104.50 F: + c APCI
 SRM ms2 135.150
 [77.325-77.335,
 104.135-104.145] MS ICIS
 B12317004-19

B12317004-19 #269 RT: 4.52 AV: 1 NL: 4.48E3
F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]

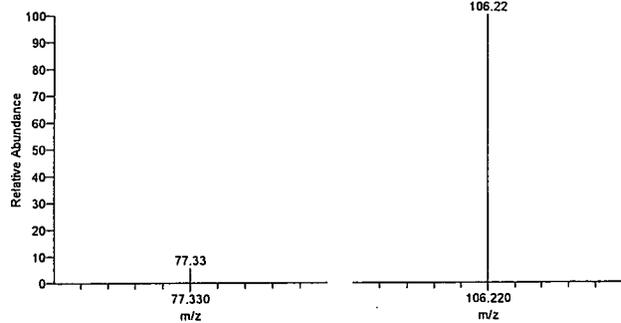


RT: 5.69 - 8.19 SM: 3G

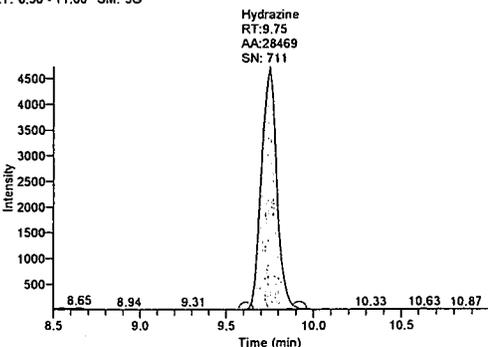


NL: 7.52E3
 Base Peak m/z =
 105.50-106.50 F: + c APCI
 SRM ms2 149.100
 [77.325-77.335,
 106.215-106.225] MS ICIS
 B12317004-19

B12317004-19 #412 RT: 6.94 AV: 1 NL: 7.76E3
F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]

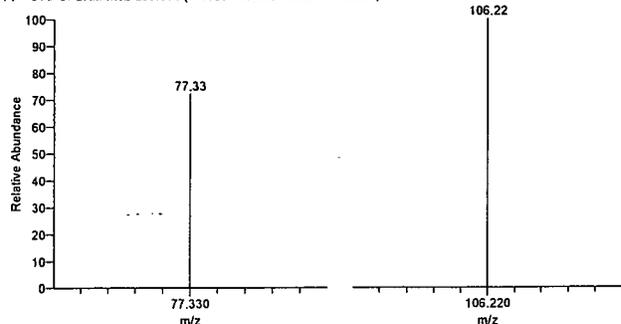


RT: 8.50 - 11.00 SM: 3G



NL: 4.74E3
 Base Peak m/z =
 105.50-106.50 F: + c APCI
 SRM ms2 209.070
 [77.325-77.335,
 106.215-106.225] MS ICIS
 B12317004-19

B12317004-19 #578 RT: 9.75 AV: 1 NL: 4.79E3
F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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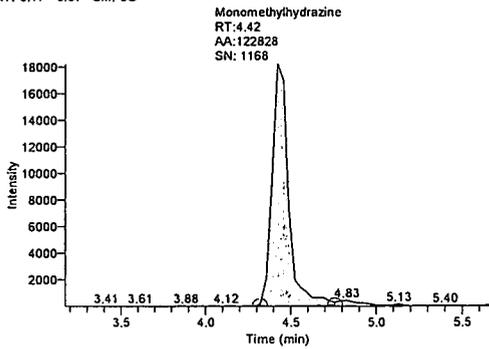
8/10/12
11/20/12

Sample Name: CCV3
Data File: B12317004-28 **Acquisition Date:** 11/20/12 01:23:01 AM
Sample Type: QC **Sample ID:** CCV3
Run Time(min): 11.49 **Vial:** a:33
Injection Volume(μl): 5.00 **Instrument Software Version:** 2.3.0.1206 SP1
Dilution Factor: 1.00 **Instrument Name:** TSQ
Instrument Model: TSQ Quantum Access **Instrument Serial Number:** TQU01408
Instrument Method: C:\XCalibur\Hydrazine **Original Data Path:** C:\XCalibur\Hydrazine Analysis\2012\Quart4
Operator: Quantum

Quan Peak Table

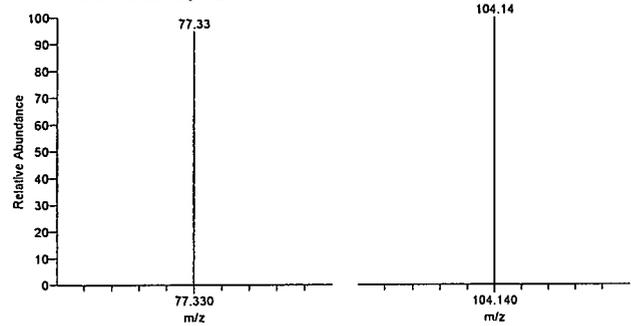
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	229.482	ng/g	122828.476	4.42
1,1-Dimethylhydrazine	227.104	ng/g	200838.439	6.73
Hydrazine	45.365	ng/g	126314.216	9.41

RT: 3.17 - 5.67 SM: 3G

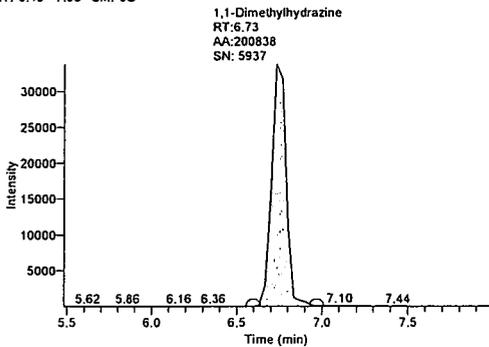


NL: 1.82E4
 Base Peak m/z =
 103.50-104.50 F: + c APCI
 SRM ms2 135.150
 [77.325-77.335,
 104.135-104.145] MS ICIS
 B12317004-28

B12317004-28 #263 RT: 4.42 AV: 1 NL: 1.87E4
F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]

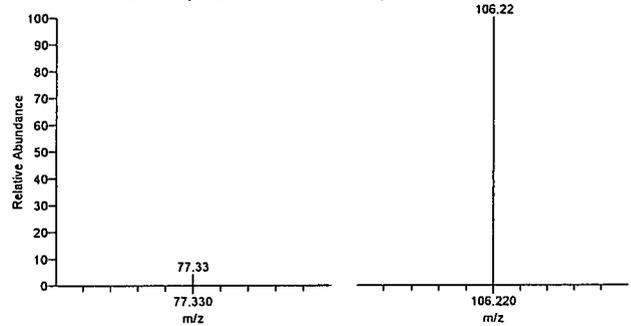


RT: 5.48 - 7.98 SM: 3G

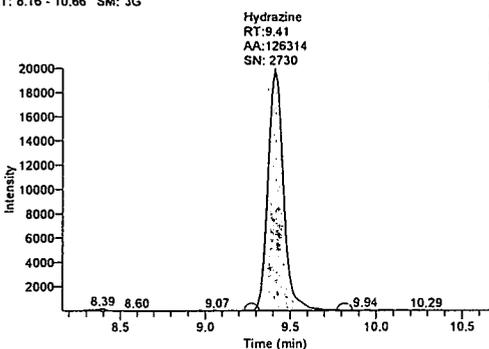


NL: 3.38E4
 Base Peak m/z =
 105.50-106.50 F: + c APCI
 SRM ms2 149.100
 [77.325-77.335,
 106.215-106.225] MS ICIS
 B12317004-28

B12317004-28 #400 RT: 6.73 AV: 1 NL: 3.48E4
F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]

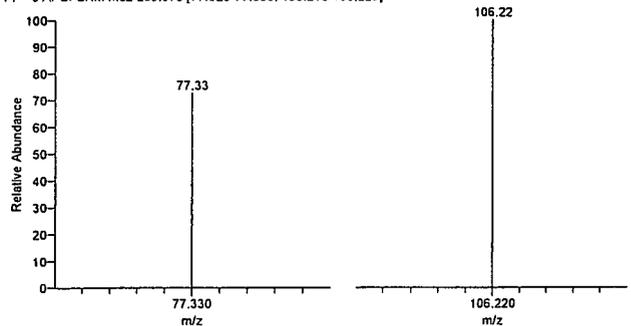


RT: 8.16 - 10.66 SM: 3G



NL: 2.00E4
 Base Peak m/z =
 105.50-106.50 F: + c APCI
 SRM ms2 209.070
 [77.325-77.335,
 106.215-106.225] MS ICIS
 B12317004-28

B12317004-28 #558 RT: 9.41 AV: 1 NL: 2.02E4
F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



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Raw QC Data

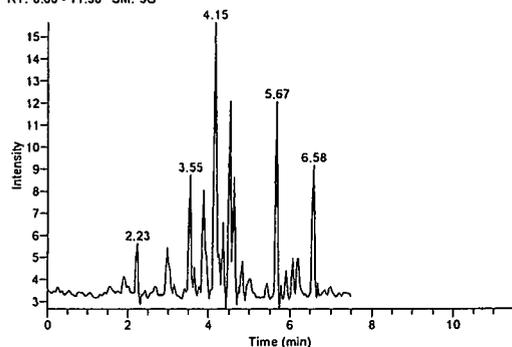
Sample Name: BLK
Data File: B12317004-12
Sample Type: Unknown
Run Time(min): 11.49
Injection Volume(μl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 08:48:11 PM
Sample ID: BLK
Vial: a:11
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Hydrazine	N/A	ng/g	N/A	N/A
1,1-Dimethylhydrazine	N/A	ng/g	N/A	N/A
Monomethylhydrazine	N/A	ng/g	N/A	N/A

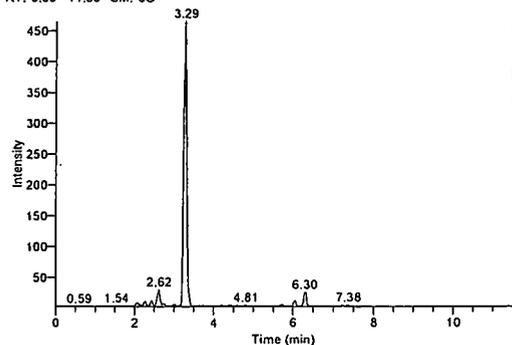
RT: 0.00 - 11.50 SM: 3G



NL: 1.56E1
 Base Peak m/z=
 103.50-104.50 F: + c APCI
 SRM ms2 135.150
 [77.325-77.335,
 104.135-104.145] MS
 B12317004-12

There's no data available to display this graphic object.

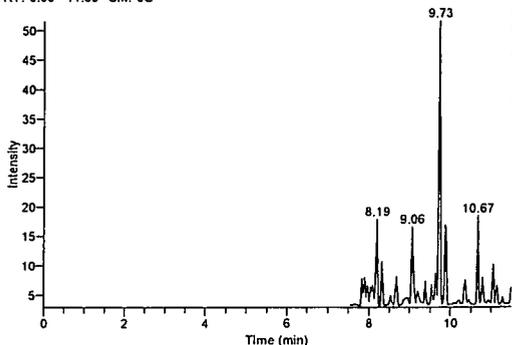
RT: 0.00 - 11.50 SM: 3G



NL: 4.66E2
 Base Peak m/z=
 105.50-106.50 F: + c APCI
 SRM ms2 149.100
 [77.325-77.335,
 106.215-106.225] MS
 B12317004-12

There's no data available to display this graphic object.

RT: 0.00 - 11.50 SM: 3G



NL: 5.16E1
 Base Peak m/z=
 105.50-106.50 F: + c APCI
 SRM ms2 209.070
 [77.325-77.335,
 106.215-106.225] MS
 B12317004-12

There's no data available to display this graphic object.

Meng Yu
Principal Chemist

NOV 20 2012

8/12
11/21/12

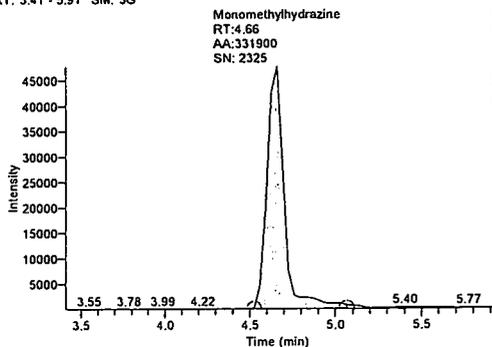
Sample Name: LCS 12317004
Data File: B12317004-15
Sample Type: QC
Run Time(min): 11.49
Injection Volume(µl): 5.00
Dilution Factor: 1.00
Instrument Model: TSQ Quantum Access
Instrument Method: C:\XCalibur\Hydrazine Analysis\Hydraz_TB
Operator: Quantum

Acquisition Date: 11/19/12 09:39:41 PM
Sample ID: LCS 12317004
Vial: a:13
Instrument Software Version: 2.3.0.1206 SP1
Instrument Name: TSQ
Instrument Serial Number: TQU01408
Original Data Path: C:\XCalibur\Hydrazine Analysis\2012\Quart4

Quan Peak Table

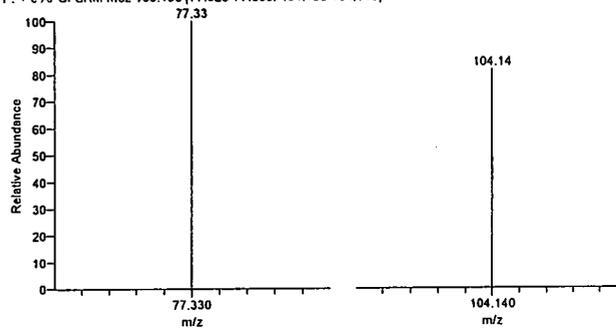
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	613.721	ng/g	331900.221	4.66
1,1-Dimethylhydrazine	580.612	ng/g	517772.805	6.87
Hydrazine	105.208	ng/g	294177.330	9.65

RT: 3.41 - 5.91 SM: 3G

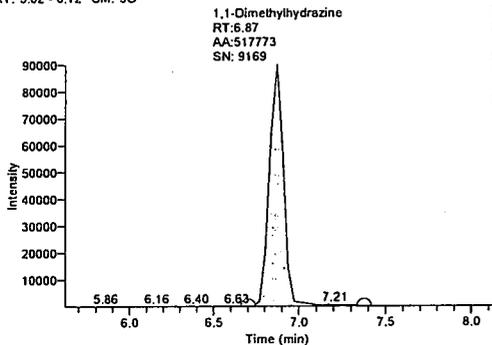


NL: 4.78E4
 Base Peak m/z= 103.50-104.50 F: + c APCI
 SRM ms2 135.150 [77.325-77.335, 104.135-104.145] MS ICIS
 B12317004-15

B12317004-15 #277 RT: 4.66 AV: 1 NL: 6.02E4
F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]

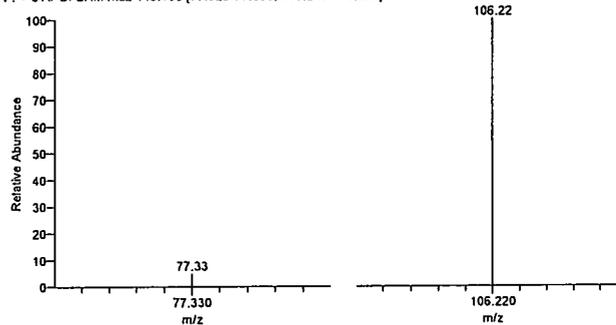


RT: 5.62 - 8.12 SM: 3G

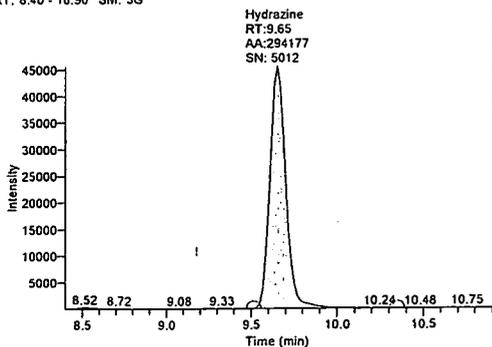


NL: 9.01E4
 Base Peak m/z= 105.50-106.50 F: + c APCI
 SRM ms2 149.100 [77.325-77.335, 106.215-106.225] MS ICIS
 B12317004-15

B12317004-15 #408 RT: 6.87 AV: 1 NL: 9.30E4
F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]

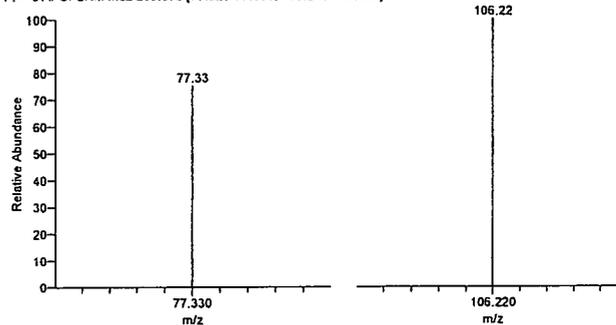


RT: 8.40 - 10.90 SM: 3G



NL: 4.56E4
 Base Peak m/z= 105.50-106.50 F: + c APCI
 SRM ms2 209.070 [77.325-77.335, 106.215-106.225] MS ICIS
 B12317004-15

B12317004-15 #572 RT: 9.65 AV: 1 NL: 4.60E4
F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



Meng Yu
Principal Chemist

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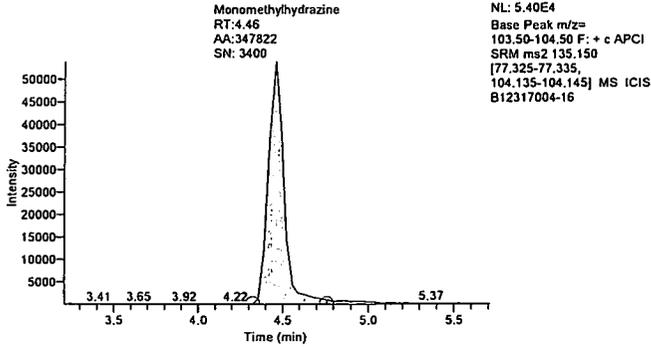
Sample Name: LCSD 12317004
 Data File: B12317004-16
 Sample Type: QC
 Run Time(min): 11.49
 Injection Volume(μl): 5.00
 Dilution Factor: 1.00
 Instrument Model: TSQ Quantum Access
 Instrument Method: C:\XCalibur\Hydrazine
 Analysis\Hydraz_TB
 Operator: Quantum

Acquisition Date: 11/19/12 09:56:52 PM
 Sample ID: LCSD 12317004
 Vial: a:14
 Instrument Software Version: 2.3.0.1206 SP1
 Instrument Name: TSQ
 Instrument Serial Number: TQU01408
 Original Data Path: C:\XCalibur\Hydrazine
 Analysis\2012\Quart4

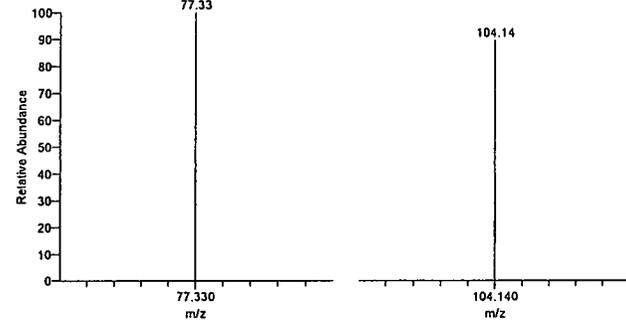
Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	642.983	ng/g	347822.018	4.46
1,1-Dimethylhydrazine	662.262	ng/g	590976.205	6.77
Hydrazine	114.532	ng/g	320331.947	9.73

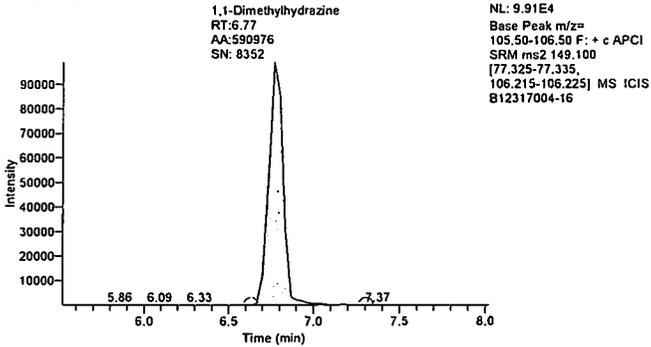
RT: 3.21 - 5.71 SM: 3G



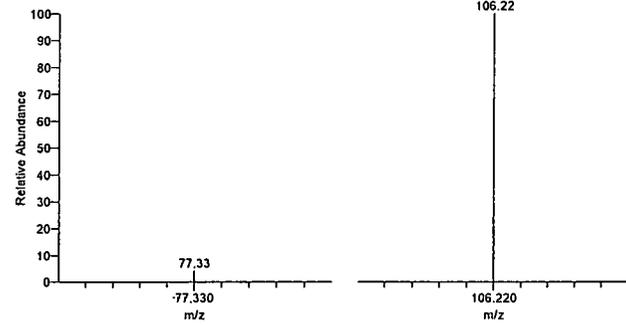
B12317004-16 #265 RT: 4.46 AV: 1 NL: 6.20E4
 F: + c APCI SRM ms2 135.150 [77.325-77.335, 104.135-104.145]



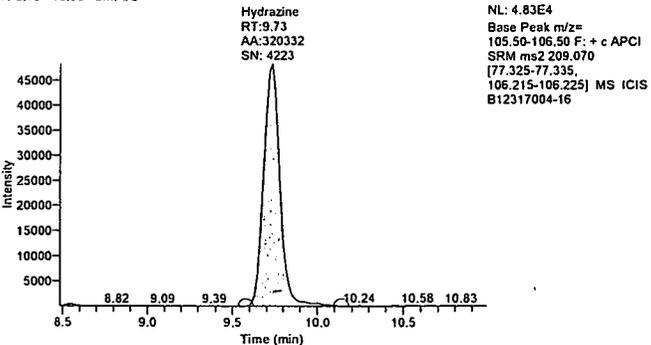
RT: 5.52 - 8.02 SM: 3G



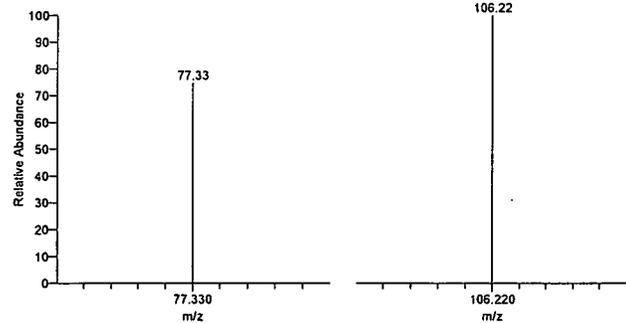
B12317004-16 #402 RT: 6.77 AV: 1 NL: 1.02E5
 F: + c APCI SRM ms2 149.100 [77.325-77.335, 106.215-106.225]



RT: 8.48 - 10.98 SM: 3G



B12317004-16 #577 RT: 9.73 AV: 1 NL: 4.86E4
 F: + c APCI SRM ms2 209.070 [77.325-77.335, 106.215-106.225]



Meng Yu
 Principal Chemist

NOV 20 2012

Handwritten signature and date:
 11/20/12

Preparation Logs

12317004

Tech 1: *My 2628*

Tech 2:

Dept: 37 Prep Analysis: 00000

Hydrazines in Soil										
QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	BC	Comments
6854547MS	SB011	1.02	N/A	N/A	157493-11A	0.10	10		0990	
6854548MSD	SB011	1.05	N/A			0.10	10			
BLANKA	BLK317004	1.04	N/A			N/A	10		NA	
LCSA	OPR317004	1.05	N/A		157493-11A	0.10	10		NA	
LCSDA		1.01	N/A			0.10	10		NA	

Solvent Used	Lot No.
10mM Hexylamine	157498-4C
19 Benz	157498-4B
5M pH 5 buffer	157498-1B

Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	BC	Comments	Analyses	Due Date	Prio
1	6854332	1.01	N/A	N/A	10		0990		10346	11/21/2012	P
2	6854540	1.01			10				10346	11/20/2012	P
3	6854541	1.03			10				10346	11/20/2012	P
4	6854542	1.00			10				10346	11/20/2012	P
5	6854543	1.01			10				10346	11/20/2012	P
6	6854544	1.05			10				10346	11/20/2012	P
7	6854545	1.05			10				10346	11/20/2012	P
8	6854546BKG	1.02			10				10346	11/20/2012	P

Rack ID:	Work Station
Internal Standard	Balance #

S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C
							12317004

Documented temps are NIST corrected.

012020050

Moisture Data

MOISTURE

SAMPLE NUMBERS:

Sample # Sample Code
6854332 SED-7

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>LCS</u> <u>%REC</u>	<u>LCSD</u> <u>%REC</u>	<u>LCS/LCSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
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Batch number: 12318820003B	Sample number(s): 6854332
Moisture	100 99-101

Sample Matrix Quality Control

<u>Analysis Name</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>RPD</u>	<u>RPD Max</u>
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Batch number: 12318820003B	Sample number(s): 6854332
Moisture	31.9 31.5 1 13

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 12318820003

<u>Sample ID</u>	<u>Batch ID</u>	<u>Analysis#</u>	<u>Tare Wt</u>	<u>Sample</u> <u>Wt</u>	<u>Dry Wt</u>	<u>%Moisture</u>	<u>Analysis</u> <u>Date (Emp#)</u>	<u>Verified</u> <u>Date (Emp#)</u>
LCS 89.5% Std.			1.0965	5.0073	1.6293	89.36	11/13/12 (1201/SWF11/14/12 (0236/CW)	
6854332	B	00111	1.0960	9.4626	8.5036	21.72	11/13/12 (1201/SWF11/14/12 (0236/CW)	
P854181BKG	B	00111	1.0973	9.5444	7.5989	31.88	11/13/12 (1201/SWF11/14/12 (0236/CW)	
P854181DUP	B	00111	1.1107	9.0333	7.2979	31.51	11/13/12 (1201/SWF11/14/12 (0236/CW)	